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Interfaces with English Aspect

Diachronic and empirical studies

Debra Ziegeler

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by Debra Ziegeler

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Debra Ziegeler

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Preface and acknowledgements

Some of the original ideas upon which this book was nurtured grew out of a number of arguments I had had with my former Ph.D. supervisor, Keith Allan, during the time I was writing my Ph.D. thesis. Unfortunately, at the time the thesis was being prepared, there was insufficient time or scope to try to debate such points, but what remained afterwards was an urgent need to publish a response to the arguments. Two 'post-Ph.D' papers that were offered as part of the response form chapters in the present book, now much revised and reconsidered since their first appearance; they are found in Chapter 2 and Chapter 4, and they attempt to provide some answers to the questions of the origin of the English progressive and the nature of the pragmatic inferences surrounding the use of proximative adverbs in English. The other chapters in the present volume offer responses to perennially difficult problems in English historical semantics: the origins of periphrastic *do* (Chapter 3) and the derivation of modal meaning in verb forms which are not part of the group of 'preterite-present' forms typically associated with modality in Old English (Chapters 5 and 6). This little collection of papers, revised and much reconsidered since their original published forms, now also can be seen as providing an alternative approach to the study of English aspect in general, in historical, empirical, and comparative evidence, and to reveal some of the ways in which aspect interacts with other features of the verbal system in English, such as modality.

In the initial preparation of the studies, a number of people contributed selflessly to make production possible. The struggle to maintain scholarship in the first years of post-doctoral life is often met with all kinds of unconscious opposing forces and is sometimes in conflict with the contemporary demands of a confused and misguided higher education system where fundamental research is, sadly, declining in value. As a result, some of the present work was undertaken with less support from traditional institutional sources than would normally be expected. For this reason, I am grateful to the following individuals who have been able to provide help in one way or another, whether in the form of work-space accommodation, recognition, discussion, or simply moral encouragement, during the time of preparation of the chapters in the present volume: Barbara Abbott, Werner Abraham, Jay Atlas, Bao Zhi Ming, Philippe Bourdin, Hilary Chappell, Pierre Cotte, Bill Croft, Roberta Facchinetti, David Hart, Bernd Heine, Willem

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Debra Ziegeler
Manchester, July 2006

横眉冷对千夫指
府首甘为孺子牛
(Lu Hsün, 1881–1936)

Abbreviations

ABS:	absolutive case
ADESS:	adessive
Aor:	Aorist
ASP:	aspect marker
CLASS:	classifier
COMP:	complementiser
COP:	copula
EMP:	emphasis
IND:	indicative
INF:	infinitive
LOC:	locative
MASC:	masculine gender
ME:	Middle English
NAR:	narrative tense
NEG:	neg: negative
NEUT:	neuter gender
NOM:	nominative case; nominaliser
NP:	noun phrase
OE:	Old English
PAST:	past tense
PRT:	particle
PERF:	perfective
PFV:	perfective
PL:	plural
POSS:	possessive
PRES:	present
SG; sg:	singular
1SG; 1sg:	first person singular
2SG; 2sg:	second person singular
3SG; 3sg:	third person singular

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CHAPTER 1

Introduction

In the preparation of any 21st-century work on the topic of aspect in English, it becomes increasingly difficult to find something new to say. Many studies on English aspect that have come to light recently concern themselves with finding new ways of describing old ideas which have remained essentially unchanged since the time of the Ancient Greeks, or with describing new developments in ways which are little different from those used to describe the older ideas. Many theoretical descriptive analyses of aspect only restrict explanation to the domain in which the theory was originally applied. Alternative ways of exploring the field of aspect may instead involve domains and categorisations operating outside the immediate field of aspect itself, thus lending a broader outlook to the topic, in which the study of aspect may be useful in explaining other idiosyncrasies of the verbal system, in English as well as in other languages. It is one of the aims of the present collection of papers to reveal the ways in which a study of certain aspectual features of English may serve to explain the close interaction of aspect with other grammatical categories of the system.

A great deal of the recent 20th-century work on aspect has been comprehensively summarised in excellent reviews such as Sasse (2002), who decries the persistent focus on comparative work revolving mainly around European and Slavic languages, in particular Russian, as well as Romance languages and English. In the present study, although this restricted trend is continued in the use of English as the main source of data, the approach applied to the study will take into account a number of factors not considered to a large extent in previous works; it will also give comparative attention (in Chapter 4) to the exploration of new aspectual parameters in languages such as Chinese which are associated with the overt encoding of grammatical aspect. Amongst other observations made by Sasse include the fact that there is a significant lack of research in areas in which aspect interfaces with other facets of grammar: with mood, with temporal marking, and with the lexicon. What the present study proposes, then, is a more data-driven, empirical approach to the subject of aspect in English, revealing its various interactions with other grammatical domains. For this reason, it will not attempt to indulge in in-depth criticism of the most popular recent theories of aspect, whether based principally on English data or not (though a brief overview of some relevant discussion will be provided in the present chapter). Nor will it attempt to make a revision of

the major problems associated with categorising levels of aspect, which may often rely on constructed examples and experimental combinations of aspect and adverbial, or aspect and verb argument (compositional theories). The objectives of the present study are to illustrate the role of aspect outside aspect, to provide a more lateral viewpoint on the presence of aspect in the English verb system and to illustrate, in particular, that English is not special in any way in its categorisation of the many ways of marking verbal reference structure. It is hoped that the reader may develop the viewpoint that aspect in English is not simply a matter for description, using increasingly more complex theoretical materials, but is a core category with a conceptual character, to the roots of which all other verbal categories may be traced as a source of development, and by which many other types of grammatical categorisation may be seen to be governed.

While it aims to offer the reader a novel approach to matters of aspect in English, the study does not reject traditional approaches as a foundation for the generation of new ideas. Relevant to the present study are the classical works of, for example, Binnick (1991), Bybee, Pagliuca & Perkins (1994), Comrie (1976), Dahl (1985), Dowty (1979), Heine (1993, 1994a), Langacker (1987a and 1991), Smith (1991), Vendler (1967), Verkuyl (1993; 1999), Vlach (1981, 1993), and many others. It is on the foundation of such significant works that new proposals can be developed and nurtured. However, few such accounts in recent years have provided a truly *integrational* approach to aspect in the extension of their findings beyond the field of aspect itself. The present study aims to reveal that verbal aspect is not a category that can be considered only in isolation; that its interlocking role in the development of other grammatical categories is of prime importance and helps to provide a deeper understanding of the ways in which speakers build grammar.

The study is integrational in many ways: (i) it integrates the study of grammatical aspect in English with the study of lexical aspect (an approach used by many previous authors, but not in the ways to be described in the present work), (ii) it integrates the study of present-day intuitions on aspect with evidence from diachronic development (iii) it integrates the study of modality with the study of aspect, one of the areas declared by Sasse (2002: 266) as "hopelessly under-investigated", and (iv) it integrates the study of non-verbal categories in the grammar with the study of aspect in verbal categories. In some ways, such approaches are not new: for example, it is difficult to avoid including discussion of lexical aspect in a discussion of grammatical aspect, and many researchers have made comprehensive comparative studies of the interaction of lexical with grammatical aspect in English and in other languages (Bisang (2004: 122) cites Sasse (2002) and Bickel (1997) in describing such theories as bidimensional, 'selection theories' of aspect, in which grammatical, or morphological aspect categories select compatible temporal phases that are provided in the semantics of lexical aspectual situations).

However, the present study presents the problems raised in previous approaches and poses a number of questions relating to semantic perspectives which other studies may not have considered in adequate detail. Such questions are founded on the role of the language user in creating the grammar, and the pragmatic behaviour of language in use.

As emphasised in Heine (1997: 3–4), the main function of language in use is for the speaker to convey meaning. Grammatical forms come to be the way they are because of a specific function – nothing is arbitrarily assigned to a form. All natural language is a tool for use in human communication, and because it is a tool, like other tools, it must have a function. The motivations for such functions are just as likely to come from outside the language system; for example, in the human cognitive system. Functions of marking plurality across languages, for example, need not refer to any *linguistic* reason, but may involve metalinguistic factors such as the salience of animacy or referentiality; such factors may even relate to basic cultural features. Motivations which come from outside the language system are more powerful means of explaining form and structure than motivations which come from inside the system (as also noted by Heine 1994a, citing Hyman (1984) and Givón (1979)) – the latter may be secondary, and motivated by more trivial adjustments of structural features with one another only to make the system more efficient, but not necessarily to supply the tools of communication. In the studies outlined in the chapters to follow, it will be seen that it is external factors that are most instrumental in motivating the changes that take place in the system.

If language is to be considered as a tool for different functions, one must also consider the development of the tool as having evolved over a prolonged historical period of time. Language is a product of history, and all explanation must allow for the historical forces which contribute to its present form. To make a distinction between synchrony and diachrony is merely to present a perspective (Heine 1997: 4). The present study agrees with Heine that the synchrony/diachrony distinction is to some extent illusory, and it can be seen that the residual effects of the historical development of a form may often be observable in present-day usage. The reason that such effects can be observed is due to the nature of *semantic continuity*, a necessary and essential factor in the motivation of grammaticalisation and other diachronic processes of grammatical evolution. Grammatical development cannot originate in a hypothetical vacuum in which a speaker may arbitrarily select any form to specify any particular grammatical function. Speakers use language to express meaning, and the grammatical system is the end-result of the functional automation of originally meaning-based linguistic forms (e.g. Givón 1995). Grammatical development thus arises from the conflict between the need to maintain continuity and distinction of meaning and the need to develop an automation of the system for ease and efficiency of communication (a process which had been

previously alluded to in Zipf (1949[1965]: 21) as the conflict between the Force of Unification (the speaker's economy), which tends to reduce form at the expense of meaning, and the Force of Diversification (auditor's economy), which tends to expand meaning at the expense of form). Semantic continuity thus provides a logical basis from which to constrain the passage of change over time and to prove the evidence of change. The need to express certain concepts does not change, therefore, only the ways in which they are expressed. While following the path of grammatical change, then, it is necessary to search for continuity of conceptual development in the target forms, and the evidence of this in gradual, incremental adjustments of meaning. Such adjustments are most frequently associated with metonymical extensions and Gricean Quantity 2 inferences (see Chs. 4–6).

The assumptions thus outlined above: the existence of an external, functional motivation for language development, the absence of a synchronic/diachronic distinction, and the need to maintain semantic continuity in breaking down this distinction, underlie the basic methodologies adopted in the study of aspect in the present volume. No other particular theoretical stance is employed; the papers included are assembled in order to answer a number of specific questions relating to the study of aspect in English, which it is felt have not received sufficient attention in previous works. They are:

(1) (a) Why are there co-occurrence constraints on the present-day use of the progressive in English?
(b) Did the historical presence of periphrastic *do* ever reflect an emerging aspectual category?
(c) Can aspect be attributed to non-verbal domains in English?
(d) Can particular aspectual situations generate modal meanings?

Questions (1a) and (1b) are considered in Chapters 2 and 3, raising the further question of whether there was ever anything approaching a binary perfective-imperfective grammatical distinction in the history of English aspect. Questions (1c) is considered in Chapter 4, which looks at the possibility of a proximative aspect, expressed through adverbial means in English but often using modal verbs in other languages. Chapter 4, therefore, together with Chapters 5 and 6, also considers the question raised in (1d), all three chapters generally exploring the relationship between aspect and modality in English. In responding to these questions, the present selection of papers in this book enable some consideration to be given to Sasse's (2002) criticisms about the over-emphasis in previous works on languages in which there is a grammaticalised perfective/imperfective distinction (as in Slavic languages), and also the previous lack of attention given to the interaction of aspect with other fields such as modality. The papers which comprise this book

have appeared in various forms elsewhere, are now revised and re-examined with some additional data, and have been collected for the fact that their presentation in the present volume will aim to throw more light on the functional and conceptual reasons for the development of aspect in the way that it has emerged and continues to emerge in the grammaticalisation of English. The aims of the studies, more generally, are also to illustrate that aspect is primary to the entire verbal system, and in its more abstract form, to other areas of the entire grammatical system.

The salience of aspect within the system is dependent on the speakers' needs to perceive action as concrete spatial form; and to be able to analogise the architecture associated generally with tangible spatial objects to the non-tangible concepts of action and existence. In all the languages of the world, aspect is an analogy of spatial structure applied to action – by means of definitions such as boundedness vs. unboundedness, or continuity/non-continuity. In this way it follows a metaphorical order of grammaticalisation in which spatial categories are construed in terms of temporal categories, outlined, for example, in Heine, Claudi and Hünnemeyer (1991), with the emphasis that temporal categories arise as pragmatic inferences: the structures so created are not visible, and we cannot suggest that an action is in reality visibly bounded or unbounded, only that our conception of it is because of its interaction with the passing of time. There is no physical reason to suggest that the action of jumping, for example, is structurally bounded, though most accounts will construe such action as aspectually bounded; thus the psychological need to attribute mental objects with the shape and definition of spatial information creates the intuitions speakers have of common features of verb structure and organises verb types with those shared features into classes marked by similar aspectual contours. Aspect is therefore an interpretation of conceptual definition; aspect separates the dynamic from the inert, it demonstrates consequences, results, processes and anticipations; yet the form that it shapes exists only as a mental entity, and does not always take physical representation in the morphology of a language. Within the grammar of a language we often use form to shape thought, for example, by the regulation of a one-to-one, form-concept analysis of time in morphological tense; in the use of aspect, though, we seek out a concrete structure in action or states to convert into an abstract mental form. This is not to suggest that a one-to-one, form-concept analysis of aspect is not found in languages generally, only that in the languages in which it does not occur, the categories are defined by their comparative associations and semantic grouping. The meanings created by use with a certain aspectual category, in turn, lend themselves to further definition, and aspect becomes the means to shape the referents of verbal categories.

It was shown in Bybee et al (1994) that temporal categories grammaticalise crosslinguistically out of aspectual ones, since aspect is capable of distinguishing

completed action from incomplete action, and completion of an action implies past temporal reference. Thus, grammatical perfectives, when extended to stative environments, create meanings of tense, since there is no sense of completion to retain the aspectual structure of the verb's reference as there is in non-stative or dynamic verb types. However, few accounts have given time to consider the divergence of modal inferences out of aspect categories also. Completion of an action not only marks it as occurring in past time (generally) but also denotes it as fact. Fact can be therefore conceived as synonymous with (though not restricted to) the semantic nuances created by perfectivity or terminativity. Thus, it may be possible to propose two parallel branching paths of development from an aspectual source: tense and modality, as shown below:

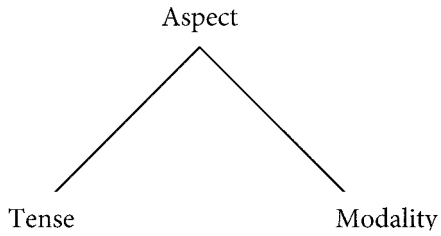

Figure 1.1 Tense and modality as parallel developments from an aspectual source

The synonymy between perfectivity and factuality, then, leaves open a number of questions regarding imperfectivity – can we suggest on this basis that imperfectivity is a natural source for non-factive modality? In the chapters to follow, it will be seen that in many cases imperfective aspectual environments give rise to irrealis concepts (e.g. Fleischman 1995) and indeed in the case of some English modal verbs, in the imperfective environments of generics and habituals may be found evidence for the emergence of non-factive modal inferences (see Chs. 5–6). We shall examine such parallels in greater detail in later chapters.

1.1 Definitions and concepts

In the following section, some principle definitions will be discussed as they are represented in relevant theoretical works. Given the wealth of research in the field of aspect and aspectology in general, there may be many approaches which cannot be included within this brief overview. However, those that are important to the understanding of the approaches of the present study will be discussed as a priority, as they are considered most useful in achieving preliminary understanding of the concepts presented in

this volume. The definitions discussed will thus be related to the following sub-topics: Aktionsart and aspectual classes (section 1.1.1) boundedness and telicity (1.1.2) the relation between aspect and modality (1.1.3).

1.1.1 Aktionsart and aspectual classes

The term Aktionsart, or 'kinds of action' (Comrie 1976: 6–7), was first referred to in the late 19th century by aspectologists studying Slavic and Germanic aspect, e.g. Streitberg (1891), as discussed in Binnick (1991). It is a term which has been variously referred to as lexical, inherent or semantic aspect (Comrie 1976), Aspect_2 (Sasse 2002 – the counterpart Aspect_1 being the binary distinction between perfective and imperfective grammatical aspect in its various manifestations across languages), and objective (as against subjective, grammatical) aspect (Deutschbein 1939, cited in Brinton 1988), which refers to the opposition between aspectual meanings conveyed by the lexical semantics of the verb and aspectual meanings conveyed by the speaker's decision to refer to the action as completed or not. Verkuyl (1993), who also uses the term objective to describe lexical aspect, was referring mainly to Vendler's (1957; 1967) encapsulation of inherent aspect into four main aspectual classes: States, Activities, Accomplishments, and Achievements.[1] Bybee, Pagliuca & Perkins (1994: 55) refer to lexical aspect as situation, using a term also applied by Smith (1991) as opposed to viewpoint (grammatical aspect). In most cases, the term refers to the aspectual distinctions defined by the lexical character of the verb itself, rather than any grammatical morphology that is associated with the predicate as a whole. Comrie (1976: 6–7) rejected the use of the term Aktionsart after discussing the former use to which it had been put by scholars working in Slavic aspect, such as Agrell (1908), who believed that lexicalised aspect was restricted only to lexicalisation achieved by derivational morphology. Langacker (1987a, 1987b; 2002) simply reduces all the lexical categories of Vendler into two main ones: imperfective (Vendler's States) and perfective (which he defines on the grounds of dynamism alone, to include Activities, Accomplishments and Achievements). These reduced category labels will be referred to later in the book, with appropriate reference for the reader where necessary. The categories of Aktionsart have been dated back to the time of Aristotle, and, it is maintained in the present study that not only are the categories historically ontological, but they are systematically so as well. Binnick (1991: 143) cites a quotation from Aristotle's *Metaphysics* in which Aristotle ponders over the difference between processes and states, and completion and non-completion, and maintains that actualization distinguishes the complete action from the incomplete one (which he labels motion). Actualization, under this account, corresponds

1. Upper case reference will be made to Vendler's (1967) four lexical aspectual classes, in order to distinguish such categories from different uses of similar terms in later accounts.

roughly to culmination. Although such categories were not distinguished by the term Aktionsart until the 19th century, their importance will be made clearer in the studies that follow this chapter, in which it is shown that Aktionsart dominates the development of grammatical aspect, and modality as well. In the present volume, though, the terms lexical and grammatical aspect will be more commonly used, with the terms perfective and imperfective applied to both lexical as well as grammatical aspectual classes, as appropriate and as indicated.

The term Aktionsart has continued to be used, though, in later studies, with little regard for such problems of definition. Brinton (1988: 3) finds that it is essential to make a distinction between lexical and grammatical aspect, as the interaction between the two categories provides the necessary basis for interpreting a sentence. Her summary of the distinctions between lexical aspectual categories includes divisions of situations into stative and dynamic (as with Langacker's imperfectives and perfectives), the latter of which is further divided into punctual (achievements) and durative (activities) types. Duratives are divided into telic and atelic, and atelic is split into single 'activities' and multiple 'series' (1988: 54). Thus, in her model, the four-way division of Vendler (1967), of States, Activities, Accomplishments and Achievements is reduced to three, accomplishments being a subcategory of durative activities, with the only difference being that they are telic. Brinton follows Verkuyl (1972) in adopting a compositional approach to aspect, but does not reject the Aktionsart categories as Verkuyl (1993) does. Verkuyl's (1993) justification for rejecting Aktionsart definitions is due to his adoption of the terms subjective and objective to describe the distinctions between grammatical and lexical aspect. If the former category is subjective, argues Verkuyl, then there is no reason why arguments selected to accompany the verb should not be subjective as well (1993: 11). However, his rejection is therefore based on only one definition of Aktionsart, and one which is probably not as convincing as it should be. Verkuyl's approach to aspect involves the use of arguments of the verb and is created out of a compositional explanation, which cannot be reconciled with a distinction between the lexicon and the syntax of aspect.

Verkuyl's work mainly illustrated the possible changes to aspectual parameters that could be brought about by the substitution of different arguments in the predicate structure in present day languages; for example (1993: 5):

(2) a. Judith ate a sandwich
    b. Judith ate sandwiches

in which the substitution of an object argument referring to an unknown quantity can change the nature of the aspectual categories (e.g. from terminative (in (2a)) to durative (2b)). These are notional in English in any case, as there is no one-to-one correspondence between form and function to express such functions as there is in

languages like those of the Slavic group (1993: 11); that is, many formal categories of aspect existing in other languages are not grammaticalised in English. It may be useful in such cases to refer to compositional, constructional aspectual categories as 'propositional' (as opposed to verbal); in other words, the notional type of aspect which belongs to an entire proposition rather than simply to the verb itself (lexical) or to a morphological grammaticalisation in the predicate (grammatical). Grammaticalisation studies reveal, though, that the only real reason that grammatical aspect exists in many languages is because it evolved out of lexical aspect; e.g. in many languages the lexical source verb for marking the progressive aspect is one with the durative meaning of 'sit', 'stay', 'continue', or a movement verb such as 'come' or 'go' (Bybee, Pagliuca and Perkins 1994: 128–9), all of which are themselves primarily intransitive activities in terms of Aktionsart. In the case of the progressive in English, the grammatical meaning also involves continuous activity or duration, and the development of the English progressive to co-occur with non-continuous or terminative activities appears to be only a relatively recent phenomenon (see Chapter 2), raising the notion, in present-day computational fields, of semantic incompatibility, often described as 'coercion' (Michaelis 2004). In any investigation into the diachronic development of the progressive in English, the subtle interaction of lexical aspect with developing grammatical aspect is clearly observable and no historical study can ignore this. It is because of such systematic and historical, ontological factors that we cannot avoid referring to the relation between Aktionsart and grammatical aspect; each is inextricably interwoven with the other.

It will thus be seen in the studies in this book that there is a mutual attraction between lexical and grammatical aspect, and this underlies what Bybee (1985) once described as a principle of 'Relevance'. Such a principle determines the degree of fusion of morphological elements in the grammar (1985: 15–16); Bybee discussed in particular the meaning of a morphological category as directly influencing the lexical content of its host stem, such as grammatical aspect directly affecting the lexical meaning of the verb to which it is attached. The opposite tendency, for incompatible elements of meaning to attract, would be found less frequently. The tendency in the first instance then, would be for aspectual categories and other morphological elements to become attracted to lexical categories of a similar meaning to that of the source of the aspectual category, and this has been observed, in fact, in child language acquisition in English and Spanish, in that the first verbs to receive marking for tense are determined on the basis of their lexical aspectual distinctions (i.e. dynamic, non-durative verbs will receive it first – Anderson (1991)). Similar crosslinguistic observations have been summarised in Bohnemeyer and Swift (2004), who believe that children's early experiences are communicated with reference to event realisation rather than to the more subtle

distinctions of processes and results (2004: 293). Such studies point to the salience of particular aspectual co-occurrences in ontogenetic as well as diachronic language development.

Smith's (1991) treatment of the distinctions between Aktionsart and grammatical aspect are problematic in some ways, such as in the lack of distinction she makes between states as grammatical aspectual categories and states as lexical aspectual categories (she divides situational aspect into five categories: states, activities, accomplishments, achievements and semelfactives (or iteratives)). The grammatical aspectual category of habitual aspect is defined as a derived stative (1991: 230), leaving only the progressive to fall within the category of imperfective viewpoint or grammatical aspect. This classification recalls that of Vlach (1981: 274) who had similar observations to make about the progressive in English (and at that time, Vlach, Dowty (1979) and others were labelling the progressive a 'tense'!). Smith's justification for the derived state status of the habitual in English is attributed to a shift from the basic-level interpretation of a non-stative verb constellation (1991: 230); this is possible even in the past tense, if the time reference supplied is of sufficient duration to enable repeated occurrences, e.g.

(3) Sam read the newspaper last year.

It would be misleading, though, to describe the continued reading and re-reading of the newspaper as a derived state. The definition of a stative sentence, according to Smith, is a situation in which there is no dynamism involved, and it is here that there is a conflict of definitions: Smith claims that habituals express dynamicity, and yet are semantically stative (1991: 42). The problem with such a definition is that they are semantically dynamic as well, and no amount of repetition will transform the dynamic actions they refer to to a non-dynamic state; the derived nature of their stativity thus needs further explanation. Perhaps it would be more accurate to suggest that the derivation is merely an implicature of a state of probability pertaining to the likelihood of recurrence of the actions described in the habitual, and that it is part of the non-referential meaning of a habitual sentence. The semantics of aspect in such cases are inescapably bound up in the semantics of truth conditions, but, unlike lexical statives, the co-occurrence of the action referred to with the moment of speaking is unaccounted for, and therefore it is difficult to make a comparison. It would be far safer to label habituals as imperfectives as they share with progressives the ability to make durative a dynamic event, the only difference being that for progressives, the durativity extends only over the moment of speaking, while for habituals, it can apply before and after the moment of speaking.

The construal of habituals as imperfectives is also adopted by Langacker (1987a: 257), who (as noted above) assigns distinctions of perfective versus imperfective processes to verbs on the basis of whether the situation referred to is con-

ceived of as changing over time. Those which do not involve change through time are imperfective, and convey the impression of constancy through time (1987a: 255). For Langacker, the notions of perfective and imperfective do not refer simply to a grammatical aspectual distinction, but to the lexical nature of the verbs themselves; e.g. perfectives co-occur with the progressive, while imperfectives are claimed to be redundant in the progressive, since the progressive construction has the effect of imperfectivising a perfective expression due to the use of the auxiliary *be* which is already an imperfective (1987a: 256). Thus, Langacker's comments on aspect do not enter into any discussion over whether the distinctions are lexical or grammatical; the same categories of perfective and imperfective apply to both lexical and grammatical aspect. Like Verkuyl, though, he does note the change in aspect according to the nature of the object argument of the verb, e.g. *I see the mountains* is interpreted as imperfective, while *I see a flash* is perfective due to the instantaneous character of the perceived event. What Langacker projects in his definitions of verbal aspect, more accurately and intensively than any structuralist aspectual interpretation could ever present, are analogies of forms of action with spatial form, and, as noted above, such metaphors provide access to the ways in which aspect can be conceptualised. This has nothing to do with language, but grammatical regularities enable common characteristics to add definition to the way in which we conceive of actions and states of being. For example, his perfective processes, which include verbs such as *jump*, *kick*, *learn*, and *explode,* are definable by the fact that they are specifically bounded in time within the predication scope, and are also replicable (Langacker 1987b: 80); imperfective processes, including, typically, verbs such as *resemble*, *have, know*, and *want*, are definable by the fact that all their component phases or states are identical, and that they are indefinitely expandable or contractible (1987b: 80).

It may be seen in the present study that the main differences are that, for perfectives, time runs through the event, while for imperfectives, the event or process runs through time (this distinction is illustrated again in Chapter 4 in the context of proximatives). Langacker's aspectual divisions thus refer primarily to lexical aspect, but with the provision that lexical aspectual divisions may shift according to the predication in which they are located; e.g. (1987b: 86):

(4) a. A statue of George Lakoff stands in the plaza.
b. A statue of George Lakoff is standing in the plaza.

Occurrence in the simple present in (4a) means that the verb is inherently imperfective, as it can span speech-time, while if it occurs in the progressive, according to Langacker, as in (4b), it is perfective as only perfectives co-occur with the progressive. The differences brought about by combination with different gram-

matical aspects present problems for an analysis in which the lexical aspect of the verb must remain constant: (4b) is therefore claimed by Langacker (1987b: 86) as representing a bounded episode. The use of the term episode to describe such phenomena is adopted also by Kabakciev (2000 – see below). However, the advantage of Langacker's aspectual classes is in their simplicity and reducibility, and this approach, along with Vendler's (1967) traditional four classes, will be adopted from time to time throughout the present monograph in describing the semantics of lexical aspect.

1.1.2 Boundedness and telicity

For the most part, Smith's (1991) study is an important contribution for the manner in which it deals with English categories of aspect from the comparative point of view of other languages in which in-depth studies have been made. The crosslinguistic means of analysing aspect in English is noteworthy, as are her attempts to describe a variety of different languages using the same categories (few studies at the time, apart from Langacker's, would posit a perfective/imperfective contrast for English). Finer means of subcategorisation are used in later studies, e.g. Depraetere (1995), who made a sharper distinction between telicity and boundedness, telicity being an inherent feature of a situation, not necessarily realised, while boundedness was an actual feature of a situation, and is expressed as realised. These distinctions are also made by Capelle and Declerk (2005), for whom sentences like:

(5) Mary was drawing a circle

in which a telic Accomplishment verb is used in the progressive, do not present a problem, as the telicity remains unaffected while the event as a whole is as yet not terminated and therefore unbounded. Their comments also recall the earlier work of Dowty (1979) and his description of such matters as paradoxical (the Imperfective Paradox). The same sentiments are echoed by Smith (1991: 96) for whom there is no problem of a paradox since she claims that situation aspect and viewpoint aspect are independent of each other. What is missing from both her and Capelle and Declerck's accounts is that a distinction between actual telicity and potential telicity should also be made. This will be discussed further below.

In many ways, the accounts that distinguish between telicity and boundedness are describing one and the same feature, but in different ways. Smith's (1991) definition of telicity involves the termination of a durative activity at a final point; i.e. it has an end-point (in this way it is similar to Brinton's (1988) definitions). At the same time, perfectives are described by the fact that they have endpoints, the only difference being that the perfective is viewed in terms of both its endpoints, initial and final, while a telic situation contains such endpoints as inherent to its

aspectual composition, and usually does not refer to the initial endpoint, though it must be present. The problem with a definition of an inherent endpoint is in the fact that it is usually other elements in the clause that supply the endpoint, such as object noun phrases as in (5), as pointed out by Verkuyl (1993) in his compositional analysis of aspect. Capelle and Declerck (2005: 914) stress the importance of the relationship between telicity and boundedness, suggesting that temporal boundedness conceptualises an event as having reached its endpoint (e.g. *John drank a glass of beer*) and that if the event described has an inherent endpoint (i.e. is telic) it will naturally influence the parameters of temporal boundedness at the same time. In this way, they were outlining essentially a difference between grammatically-imposed terminativity (in boundedness) and lexically-contained terminativity (in telicity); i.e. lexically-contained by the contribution of the lexical items in its scope, thus, an expression could be telic but not bounded, as in progressive Accomplishments, such as *John was crossing the street*. The difference that they do not point out, however, is that their definitions of telicity include expressions which are realised as telic as well as those that are only potentially telic; for example, in *John was crossing the street*, it is not known whether he ever did cross the street, and the use of the past imperfective (in the form of a progressive) with such a telic predicate produces a prediction. However, under all Gricean principles, it is justifiable to suggest that the speaker would not have uttered such a prediction if she had either (i) not been able to foretell in some way the obvious culmination of John's walking activity, or (ii) had been able to make a stronger assertion that he actually made it across the street. The degree of knowledge attributable to the speaker's prediction is a matter for the hearer to evaluate, given the evidence supplied, and the precedence of one Quantity implicature over another. Such problems will be ironed out in Ch. 4.

Some accounts allow for the features of boundedness and telicity to be described and covered in other ways; for example, Verkuyl (1993) discusses not boundedness but terminativity versus durativity, as noted above under (2). This distinction referred to a structural division of lexical aspectual categories of states and processes, states referring to ongoing situations which were not bounded and could not be bounded, e.g. (1993: 18):

(6) a. Judith wants to eat a sandwich

processes referring to ongoing situations which could be bounded, but were not, e.g.

b. Judith ate sandwiches

and events, referring to categories which could be bounded and were, e.g.

c. Judith ate three sandwiches.

The possibility for boundedness was inherent in the verb but realised in the quantification of the verb argument, so that the lexical difference between states, processes, and events was created compositionally by the addition of features, terminativity being a composite result of the interpretation of the verb together with its arguments as one holistic aspectual feature. Thus, boundedness was equated with an entire construction, not simply with the verb itself, as it had been in Vendler's categories, and telicity was also a feature of the construction. Verkuyl's discussion on telicity is minimal, and he alludes to it as non-actualised terminativity (1993: 323). Again, there is variation according to the quantification of the verb argument (1993: 323), e.g., Verkuyl notes that

(7) John is drawing some circles

does not carry the entailment that *John has not yet drawn some circles*, at least, assuming that he has drawn enough to be able to quantify them by *some*. If, on the other hand, his drawing had just commenced and he had not yet completed even one circle, the entailment might apply. However, these matters are vague from the point of view of terminativity. What is important here again is the conversational implicature that the speaker would need to know what John was drawing in order to be able to identify it as circles, as discussed earlier with regard to (5). If the speaker is not making a prediction, it remains to suggest that she is using the progressive in order to defocus from the completion of an event to an event-in-progress, for whatever contextual reason may apply. Even in the present progressive, an Accomplishment verb always presumes a prediction of sorts. Used in the past, the progressive may serve as a means of focusing on the event-in-progress, even when it is known or implied that it was terminated, for example, when the progress of the event was interrupted by another event; e.g. *John was drawing some circles when the roof caved in*. The use of the past tense in itself lends a stronger sense of certainty to the proposition, with or without the progressive, and Jespersen (1931) has often been cited (e.g. in Dowty (1979: 145) and Vlach (1981: 284)) as having described the use of the progressive as a back-grounding (temporal) frame during which other, shorter events may occur.[2]

Kabakciev (2000) describes boundedness in another ways. His reclassification of Vendler's (1967) classes refers to Accomplishments which lack inherent end-points, and States and Activities that have terminated (and yet do not have an inherent end-point). His study highlights the confusion brought about by the use of terms such as terminative – even States can be terminative if they have been brought to an end. Kabakciev's Accomplishments and Achievements, which are

2. Vlach cites the Jespersen reference in text as 1954, though his References refer to Jespersen's 1931 volume.

merged into one category of events, are distinguished from terminated States and Activities (his processes) by the fact that they have consequence, or some definable result-state. States and processes are held to be imperfective, and inherently unbounded situations, while events are normally perfective and bounded. However, a terminated state or process is supplied with a new label, an episode, which has terminativity but not consequence or result (2000: 286).

Amongst Kabakciev's examples of non-bounded accomplishments include (2000: 281):

(8) John climbed the mountain that morning. But he could not reach the peak until the evening because of the fog.

Kabakciev finds (8) fully acceptable, but it would be interesting to test such examples on native speakers in order to determine the most idiomatic way of expressing the fact that John was climbing the mountain or that he went climbing on the mountain that morning instead of the fact that he climbed the mountain. Although there is a certain amount of flexibility in the choice of grammatical aspect in English (e.g there is no overt means of expressing perfectivity apart from the use of the simple form of the verb), it could be well argued that such examples are simply contradictory and would not be used in actual discourse, or that preference would be given to an oblique complement rather than to a direct object (*John climbed on/up the mountain that morning*). For Kabakciev, however, such examples constitute a case for a new aspectual division of episodes – unbounded Accomplishments.

Other examples of episodes include the use of adverbial quantifiers, in such examples as (2000: 289):

(9) John wrote the novel for an hour

in which from *wrote the novel* is understood 'wrote at the novel' or 'was writing the novel'; i.e. there is a pragmatic interpretation of such examples, and similar examples have been discussed in earlier works, e.g. Fillmore (1971), and later Dowty (1986) and Verkuyl (1993: 10), who use such examples to question the reliability of the durative adverbial *for*-adjunct as a determinant of the aspectual nature of the verb itself. More recently, such examples have been described as aspect-shifting, or another example of coercion, e.g.:

(9') I read a book for a few minutes

(De Swart 1998: 359), in which there is ambiguity between an Activity and an Accomplishment. However, they may well be understood as the result of metonymic processes or ellipsis taking place over time, as it seems they are less acceptable in earlier periods of English. The Early Modern English portion of the Helsinki Corpus

lists similar examples as having oblique complements: e.g. in *The Diary of Lady Margaret Hoby*, (1570–1640), p. 76: *with Mrs Ormston, to whom I read a whill of the Bible*; and also p. 80: *After priuat praier I did eate my breakfast, Read a Longe Letter.* The genitive is not used when the verb expresses a true Accomplishment, and the shift is avoided by the use of the preposition *of* (*a whill*, of course, meaning 'a while').

Van Voorst (1992: 69) disagrees that such examples are acceptable, maintaining that Accomplishments cannot co-occur with *for*-adverbials expressing duration. However, Dowty's suggestion was that the verb aspect was ambiguous in such cases between an Activity and an Accomplishment. It would, nevertheless, be interesting to determine whether most native speakers would feel more comfortable with *John was writing the novel for an hour*. Such examples express possibilities, since novel-writing is reasonably thought of as having a durative nature. However, ???*John wrote his Ph.D thesis for three years* would certainly be less likely (unless it was known that he never finished it). It is considered that the divisions made by Kabakciev (2000) to include an additional category of episodes are not necessary to carve up the aspectual sphere in English. The meanings derived from 'perfectivised States' and 'unbounded Accomplishments' are merely pragmatic inferences, as will be discussed below, and do not appear to hold any conventionalised status, since such categories are expressed as conflicting – they are *de facto* aspectual descriptions, not *de jure*. In the present volume it is emphasised that the use of terms such as boundedness and telicity will be restricted to those in which the culmination of an event is regarded as asserted and realised, so that episodes and potentially telic circumstances found in the scope of imperfectives will remain as just that – potentially accessible.

1.1.3 Aspect and modality

Smith (1991: 109–110) referred to the clash of aspectual nuances associated with perfective states, which is not found in languages in which perfective marking does not appear with stative verbs, such as Chinese. In English, perfectivity is an inherent meaning of the past tense, which (as noted earlier) has grammaticalised further than perfective aspect in that it refers to time, not just verbal qualities, and therefore may co-occur with any verb type (Comrie 1976; Bybee et al 1994). However, in English dialects in contact with Chinese, such as Singaporean English, examples such as (10) may still be taken to mean that the state is continuing, since the use of a past tense stative verb is insensitive to the retention of semantic traces of perfectivity associated with past tense marking, and may refer to either present

or past time. In other dialects, perfective lexical trace meanings appear to affect its distribution in some contexts, so that:

(10) That lemon tree was in the ground for about two months

(Ziegeler 1995; 2000a) conveys the inference, to most speakers, that the tree is no longer in the ground. Smith's example, *Jennifer knew Turkish* (1991: 109) is noted as presenting two possible inferences, that the subject referred to may still know it, or that she may have forgotten it, and similar examples have been isolated by Langacker (1987a; 1987b). However, in neither of the latter two accounts has there been any reference to the creation of modal inferences, or what produces a counterfactual modal meaning, as indicated in Ziegeler (1995; 2000). The counterfactual inferences produced in examples such as (10) are in the false termination of the past state, thus suggesting a counterfactual present state; such inferences are not part of the true meaning of the verb, since states cannot be perfective. These are formed whenever a stative lexical verb is combined with past tense or perfective grammatical aspect, and it is such combinations that play a role in the historical development of hypothetical modal verbs such as *would*, *could*, and *should*, all of which were originally past stative verb forms.

In the analysis of aspectual conflict and its relation to modality, the bipartite aspectual classes of Langacker (1987a; 1987b) discussed above enable a clearer means of revealing the processes involved. Thus, in (10), there is a conflict between what Langacker terms imperfective lexical aspect and the perfective grammatical aspect associated prototypically with the meaning of past tense, which is hypothesised crosslinguistically to have developed from perfective aspect historically (as noted above; see Bybee, Pagliuca & Perkins 1994: 92); this means that perfective meanings will often be retained as part of the meaning of the past tense long after the grammaticalised tense category has spread to stative environments. However, the aspectual clash works both ways – when imperfective grammatical aspect is combined with perfective lexical aspect (as in (7)), or when perfective grammatical aspect is combined with imperfect lexical aspect (as in (10)). The former case was at the basis of Dowty's (1979) Imperfective Paradox (as described above). Dowty's Imperfective Paradox is interesting from the point of view of Langacker's (1987a; 1987b) analysis of the verb types which may co-occur with the progressive: if only perfective verb types can appear in the progressive, why is there sometimes a paradox when they do? The paradox arises due to the interference with the truth conditions of such cases, and if a lexically perfective verb is made imperfective, it renders changes in the factuality, e.g. as in (5) above, the truth of the entire proposition is not determinable, since it could not be determined that

Mary ever finished drawing a circle.[3] Dowty (1979) circumvents this problem by suggesting that the truth of an interval of time is not the same as the truth for any moment within that interval, and as noted above, Smith (1991) dismisses the Imperfective Paradox on the grounds that situation aspect and viewpoint aspect are independent of each other. We are still left with the problem of the actualisation of the event, something which Bohnemeyer and Swift (2004) have referred to as event realisation or eventuality. Whatever the terminology used to account for such problems, though, the Imperfective Paradox presents itself as one of the main points of interaction on the aspect-modality interface, and it is from this point and similar situations that the present study will examine the dependence of modal categories on aspectual features. It will be seen, eventually, that modality can be regarded as almost epiphenomenal in relation to verb categories in English; i.e. in some ways it is a mere accident of aspectual conflict.

However, such a heterogeneous description of imperfectivity flies in the face of Langacker's claims that imperfectives contain identical component states; we do not have imperfective paradoxes in cases in which both the lexical aspect and the grammatical aspect are imperfective; e.g. *Mary was talking* (though Langacker (1987b) insists that such verbs as *talk* are still perfective). Dowty (1979: 146), fortunately, was insightful enough to allude to the possibility that there may be a modal function applicable in the case of the progressive (rather than simply a temporal function, which must be inaccurate in any case since there is no way in which the progressive can function to refer to temporality). The possibility of a modal operation for imperfectives is taken up much later in works such as Fleischman (1995), whose study of the imperfective aspect in French and Spanish reveals that it is such aspectual environments that provide the ideal context for the development of modal inferences. This is also argued by Lenci and Bertinetto (2000: 257) for Italian, who refer to the modal nature of imperfectivity. There is an ontological connection between imperfectivity and absence of factuality, since, as noted earlier, only in the use of the perfective aspect can we be assured of something as having happened or taken place; imperfective aspects refer to the existence of states, but not to factual events – they are essentially quasi-factual.[4] It will be seen in Ch 4 that there is a distinct correlation also between the degree of counterfactuality attributable to a situation and the degree of perceptual boundedness or perfectivity

3. This is not to suggest, of course, that philosophical truth must always be associated with perfective or completed events. The statement *Snow is white* is a true statement, and yet there is no completed event involved, unless it can be argued that a state of whiteness is complete enough in itself.

4. The difference between factivity and factuality is relevant here; imperfectives are lacking in factuality but not factivity (the potential for factuality).

which may be associated with the predicate over which the counterfactual modality has scope; such a correlation has been termed pragmatic polarity reversal by Verstraete (2005a). The relation of boundedness to counterfactual inferences is not restricted only to aspectual contours, but is a general conceptual phenomenon. Imperfective aspectual situations, as shown in Chapters 5–6, give rise to modality which is non-factual, or describes prediction about the present or future.

The interaction of aspect and modality is therefore also seen in the use of generic aspectual situations in Chapters 5–6 as frequent sources for the derivation of predictive modality. Langacker (1997: 191) describes a generic expression as " ... one that ascribes a general property to all members of a class" and a habitual expression as one that describes customary activities which are thus repeated events, suggesting that both are similar in respect of describing multiple occurrences of the same event. While he also illustrates intermediate examples between generics and habitual aspect, the main difference, if any, is held to be that habituals may refer only to activities carried out by individuals (1997: 194); however, in general, habituals refer to repeated events performed by one individual, while generics refer to one event or one state applied to multiple participants. For example (1997: 195):

(11) a. Alice stalks that bird every morning (habitual)
b. Kittens are born blind (generic)

Langacker (1997) also refers to repetitives, such as *Sam kicked his dog (several times)* which in such instances are equivalent to what are elsewhere know as semelfactives, or iterative aspect (see Comrie 1976: 27). The difference between repetitives and generics and habituals is maintained as being that repetitives are usually considered as consisting of events which are actual, but habituals and generics are not, though Langacker clearly distinguishes between actuality and reality, the latter consisting of events which have occurred and can provide generalisation for projecting into the future in terms of actualisation. This justifies an evidential basis in generics, which will be discussed at greater length in Chapters 5–6.

The differences between reality and actuality are alluded to in other accounts, which identify generics by two different approaches: inductive, and rules-and-regulations (Carlson 1995). The inductive approach is a perspective that maintains that the truth conditions of a generic can be arrived at by considering the number of instances or episodes of the occurrence of similar events that may provide the language user with justification for stating abstract regularities (1995: 227). Examples of this approach are found in the expressions of scientific facts:

(12) The sun rises in the East

which is generic because of the existence, or realisation in Langacker's terms, of corresponding episodics or previous single occurrences of the same event. The basis for the generalisation is sufficient prior evidence or precedence.

The other approach, the rules-and-regulations approach, and relies on knowledge of events which have not necessarily been experienced or observed by the speaker, e.g. (Carlson 1995: 225):

(13) Bishops move diagonally.

A similar example is given by Langacker (1997: 198): *This door opens to the inside*, in which the door might just have been mounted onto the wall frame and never used at all so far. The question of the difference between these two approaches, though, is resolved by the possibility that rules-and-regulations types are, in fact, definitional of their subjects and a distinction ought to be made between generics, such as (13), of which the generic statement is a sufficiently defining characteristic and holds in all possible worlds, and other, so-called inductive generics of which the generic event or state holds and can be verified in potential worlds, e.g.:

(14) Mary smokes occasionally > Mary can/may/will smoke occasionally

that is, there are other defining characteristics of the subject besides that which is expressed. (13), for example, cannot be felicitously alternated with a modal verb as *can* (14) (??*Bishops can move diagonally*) unless it is a game other than chess which is under discussion. Lenci and Bertinetto (2000: 267) also point to the difference between these two types, which they label inductive and deductive types respectively, the deductive type referring to the definitional type. This presupposes that the speaker has arrived at the generic statement by ulterior knowledge; in (13) for example, learning the rules of chess from a guide-book.[5] They also raise the problem, as does Cohen (1999) before them, of the number of times that a habitual event must have previously occurred for a habitual utterance to be classed as true. It is difficult, though, to debate such questions in the face of other descriptions of habituals that regard them as an intermediate category between realis and irrealis (Givón 1994). In establishing a difference between inductive generics and definitional types, as discussed above, it is possible to suggest that generic sentences may represent a category of evidential modality in English, which can be subcategorised according to whether the source for the generic is based on hearsay

5. It might be remarked, though, that there is a modal distinction between inductive and rules-and-regulations generics: the former inductive type, as shown in (14), express the possibility of the proposition in their scope; the latter type, as shown by alternative means of expression such as *Bishops must move diagonally*, or, *This door must open to the inside*, indicate that the proposition is necessary in all possible worlds. (This rule cannot apply to inductive examples such as (12), though, unless one is referring to altered circumstances in our solar system.)

or learning from other sources (as with definitionals, e.g. (13)), or direct experience (as with (12) or (14)). This is not to exclude the possibility that habituals can be expressing hearsay knowledge. In both cases, though, the fact that the truth conditions for generics can be drawn up in the absence of necessary observation or experience coinciding with the moment of speaking is sufficient to place them also in the domain of potential modality; thus they are prime candidates for classifying as categories residing on the aspect-modality interface.

The interaction of modality with aspect is therefore one of the main themes of the present collection of studies, and it can be seen from such studies that the two dimensions of verbal categorisation are linked in specific ways. In discussing the two categories, it need not be suggested that the verbal category of tense should be ignored, it is simply to say that in languages which do have tense, such a category is held to be a later grammaticalisation of prior (perfective) aspectual categories and thus the domain of tense is already influenced by its association with earlier aspectual properties. The focus on aspect in the present collection of papers is therefore to present a perspective which accentuates its primacy in relation to the determination of other verbal categories, and indeed, of the conceptual organisation of the human mind in using language to describe action and state in terms of concrete entities. The brief overview provided above of the possible ways in which aspect and modality might interact enables the question in (1d) to be re-stated as the following hypothesis:

(15) That modality arises principally as an inferential by-product of particular lexico-grammatical aspectual co-occurrence conditions.

The empirical and diachronic data presented in Chapters 4–6 in the present volume will also support the proposition that modality appears to emerge directly out of the guise of aspect and is in actuality a reinterpretation of aspectual nuances in the form of inferences over the fact or non-fact of the described event or state. Such suggestions will be discussed with relation to counterfactual, non-factual, and future-projecting modality in the chapters to follow. Further definitions will be explained as they arise.

It should also be remembered that the particular nature of the assumptions noted above does not presuppose that aspectual marking is always the result of a grammaticalisation process in English. In some accounts it is held to be (e.g. Bybee et al 1994), often for the reason that it is explained by such theory in other languages; however, in the present account, the data is examined from first principles, with a view to establishing a particular theoretical position, post-hoc, once the facts are revealed. If grammaticalisation is clear from the results, then it is proposed as an explanation, but it must also be borne in mind that pragmatic inferences may motivate historical change in other processes besides grammati-

calisation. Thus, it is necessary to maintain an open mind in investigating data, either from a diachronic or a synchronic point of view.

1.2 The studies in the present volume

As mentioned above, some of the papers presented in the volume represent approaches to a number of problems of verbal aspect and modality in English which have plagued the linguistic literature for some time now. Chapter 2, 'Imperfectivity and the English Progressive' appeared in a shorter form in *Transactions of the Philological Society* 97, 51–101 (1999), under the title, 'Agentivity and the history of the English Progressive'. The aim of this study is to demonstrate an alternative approach to the frequently-accepted hypothesis that the English progressive is grammaticalised from a locative source construction schema (e.g. Bybee, Pagliuca & Perkins (1994); Heine (1994a)). The approach used in the study reveals that the lexical aspect of the progressive participle played a more important role in the early development of the aspectual category than is often assumed, enabling a reanalysis along a noun-to-verb continuum (Haspelmath 1994), in which the participle is regarded as gradually developing more verb-like senses of agentivity as it progresses towards Early Modern English and becomes associated with more and more lexically perfective verb types such as the Accomplishments of Vendler (1967). The incompatibilities sometimes described as coercion in later accounts (e.g. Michaelis 2004) and the problems revealed in Dowty's (1979) Imperfective Paradox, as discussed above, are the result of more recent generalisations or extensions of the function of the progressive to co-occur with lexical aspectual types with which it was not initially associated as a source construction. The participle is hypothesised to have been originally derived from the agent-noun of Old English (Heine's (1994a) Equative Schema, rather than the Location Schema). In Chapter 2 it is also seen that it had associations with imperfective grammatical aspect as early as in Old English, and that the developing progressive represented a specialization of such functions to one subcategory of a broader imperfective paradigm, emerging in reaction to the loss of perfective prefixes on certain verbs in Old English (see Brinton 1988 for a list of these; see, e.g., Abraham (2002) for more discussion of the loss). The study does not cover the period after 1700, but provides an overview of the continuous development of the progressive from Old English times, based on semantic factors. In this way, it draws attention to the assumption outlined earlier, that in reconstructing the historical factors surrounding the emergence of a grammatical category, it is necessary to maintain semantic continuity, something which presents a problem for many other recent accounts of the progressive. Also,

previous accounts have not adequately taken into consideration the interaction of lexical and grammatical aspectual domains to enable a more plausible account.

In Chapter 3, 'Perfectivity in English: the case of *do*' another alternative approach is taken to the study of aspect as a historical development in English, and the auxiliary *do* is investigated as a later grammaticalisation of an originally periphrastic causative marker into a grammatical marker of perfectivity and anteriority in discourse. The paper selected for this chapter appeared in its original form in *Cognitive Linguistics* 15, 529–574 (2004), under the title 'Reanalysis in the history of *do*: a view from construction grammar'. The question whether English ever had a perfective aspect is thus dealt with as part of this study. The suggestion that the auxiliary had earlier functions as a perfective marker was alluded to in Denison (1985) but not explored further. The historical situation also reveals some use of the auxiliary as a marker of habitual aspect, which is puzzling if habituals are considered to be examples of imperfective grammatical aspect, and this puzzle is considered from a comparative viewpoint. Data from other languages reveals a tendency for causative markers to develop into functions of marking accomplishment (see, e.g. Van der Auwera (1999)), which are by nature perfective. It is suggested that discourse perfectivity was at one stage a salient feature of the English aspectual system in Early Modern English, and that it was at this time that many variants existed which were competing for prominence in the stabilisation of an aspectual system in English. This chapter holds as basic assumptions the integrational approach to the present studies, the need to account for its causative meanings historically by the factors of semantic continuity, and the links between lexical and grammatical aspect.

Chapter 4, 'Counterfactuality and proximative aspect', originally appeared in a shorter form as a paper in *Journal of Pragmatics* 32, 1743–1776 (2000) under the title, 'What *almost* can reveal about counterfactual inferences'. Aspectual features are discussed in relation to counterfactual reasoning, using the example of an adverb, *almost*, to demonstrate the significance of aspectual proximity as a source of counterfactual meaning. The use of the adverb is compared with the use of volition verbs expressing proximity in Russian and Finnish (Kuteva 1998), and West African Pidgin English (Heine 1994b), and the proximative is established in such accounts as an aspectual category, affecting verbal integrity but neutral to time reference. In the approach proposed as part of this study, it is aimed to demonstrate that the proximative may also be isolated as an aspectual category in English, using adverbs or modal verbs to express the same functions.

It is also shown in Chapter 4 that the degree of counterfactuality expressed as an inference of proximative aspectual meanings is the result of the interaction of the adverb with a range of complement types; e.g. stative, time-stable complements (such as *Sam is almost bald*) are shown in native-speaker judgements to be less

likely to produce decisive counterfactual implicatures than non-stative, dynamic or non-time-stable complements (such as *Sam almost fell*). In this way, it can be shown that lexical aspectual categories interact very closely with the propositional aspect of proximity in determining the level of factuality implied in the utterance: this is by a principle of information-density in the utterance. (Givón (1994) also noted the frequent association of past and perfect verb forms with the subjunctive mood, but Fleischman (1989) attributed this association to a metaphor of temporal distance). The findings in Chapter 4 illustrate that it is not temporal distance which derives counterfactual inferences, but factual proximity, a domain in which modality emerges as a pragmatic inference resulting from the combination of proximative aspect and perfective aspect in the complement of the proximative marker. The role of aspect in the development of counterfactual modal meanings, in accompaniment with Horn's (1989[2001]) Q-based implicatures, is very clearly emphasised in such findings. Additional data from native speakers of Chinese in a later study (not part of the original) demonstrate that the findings obtained from English data are replicable in other languages, and that it is always aspectually-bounded lexical verb types which receive the most likely interpretations of counterfactuality; the relevance of proximative aspect is most important with such categories. Whether or not a proximative aspect can be proposed to co-occur with unbounded or imperfective verb types remains questionable. Chapter 4 illustrates well the assumption proposed in (15) – that modality arises out of particular conditions of co-occurrence or conflict between lexical and grammatical aspect.

This assumption is further exemplified in Chapter 5, 'Aspectual collocations and nascent modality', and the interactional role of aspect with modality is further analysed, in an investigation of the origins of modality in a semi-modal, *be supposed to*. This study first appeared under the title, 'On the generic origins of modality in English', in a volume edited by David Hart, *English Modality in Context* (Bern, Peter Lang, 2003, 33–69). The semi-modal is investigated diachronically and it is found that the early uses are related to the expression of evidentiality (as discussed by Chafe 1986 and Noël 2001). It is further suggested that evidentiality provides the logical premise for the genesis of modal meanings and that the same pattern may be found in the early development of full modal verbs. The case for evidentiality is supported by the prevalence in early stages of development of complement types of a generic, time-stable, or nomic type with inanimate subjects, which express timeless truths about states of existence. When imperfective, generic complements expressing multiple events are seen to give way to perfective complements expressing single events, a modal sense of obligation arises, associated with more recent stages of development. The domains in which such changes are found to take place are those in which human subjects co-occur in generic contexts, creating ambiguity between meanings of habitual actions and customary duty, the rise in the frequency of human sub-

jects creating a shift in the meaning of the matrix verb to one of expectation, rather than belief. Visconti (2004) has also shown ambiguity to arise in complements of the non-passive, *suppose that*, in which a human subject co-occurs with a verb in the progressive aspect, also an area of potential aspectual conflict (perfective lexical aspect with imperfective grammatical aspect). The results indicate that not only the creation of counterfactual modality, but also that of some forms of non-factual modality are originally linked to incompatibilities between lexical and grammatical aspect, and that in English, the habitual and the progressive are volatile areas for the emergence of pragmatic senses of non-factual assertion.

The same assumption is carried further in Chapter 6, 'Generic aspect and the rise of future *will*', and this central theme is explored in a study of the early development of the principle modal of future time reference, *will*. Chapter 6 is an slightly modified version of a paper published in *Language Sciences* 28: 76–119 (2006) under the title, 'Omnitemporal *will*'.[6] In earlier studies, e.g. Bybee and Pagliuca (1987) and Bybee, Pagliuca and Perkins (1994), it had been proposed that *will* developed its future, predictive senses from the meanings of intention associated with its lexical source uses. It is shown in this chapter that the prediction meanings of the modal were more likely to have derived directly from the use of the modal with generic or non-specific subjects, since these dominate the frequency of uses in Old English. As a result, predictive senses are already contained in expressions of probability meanings of *will*, e.g. *Dogs will eat bones*, a generic statement, and such a development maintains the likelihood of Aijmer's (1985) proposal that predictive senses first emerged from third person subjects. A development from reporting the subject's intentions to estimating a prediction, on the other hand, would have involved a switch of speech act. Naturally it is up to the hearer to determine the speaker's illocutionary force, which may be ambiguous, but at the same time, it is less likely to be the case that a speaker can have access to the subject's intentions and thoughts without them being communicated in the first instance by the subject.[7] If the earlier meanings had expressed likelihood and probability, and generic disposition towards a proposition, there is an immediate evidential basis to justify the predictions they qualify. In this way, and in Chapter 5, future-projecting modality is seen to emerge as the result of evidential knowledge conveyed initially in the form of generic statements, and non-epistemic modality appears

6. A version of this paper was also presented as an invited plenary at the 2nd Interntional Conference on English Modality, University of Pau, France, 2–6 September, 2004. I am grateful to the organisers of the conference, in particular Paul Larreya and Pierre Busuttil, for their kind hospitality, and to Johan van der Auwera, Philippe Bourdin, Pierre Cotte, Renaat Declerk, and all the conference audience for many useful comments and suggestions. Naturally any shortcomings are of my own making.

7. This suggestion was raised by Pierre Cotte and Philippe Bourdin (p.c.).

to have a generic source in more than once instance – in a semi-modal, and in a core modal form. Chapter 6 embraces all the assumptions outlined earlier: the panchronic nature of aspectual development, the need to establish semantic continuity in investigation, the links between lexical and grammatical aspect, the role played by non-verbal elements in the interpretation of aspect (illustrated by the preponderance of generic subjects) and the rise of modality as a result of aspectual co-occurrences (in this case, the conflict produced in generics between perfective lexical aspect and imperfective grammatical aspect).

It could be remarked at this stage that no attempt has been made in this book to provide a renewed approach to the study of the perfect aspect in English.[8] The reason is that much of the earlier work by Carey (1990, 1994 and 1995) and also Traugott (1992) has dispelled curiosity and remains unchallengeable as a grammaticalisation account, perhaps the only question arising relating to the coalescence of the *have*-auxiliary and past participle over time (which would not be readily accountable for by Givón's (1999) principles of cliticization in grammaticalisation, since these suggest that the syntactic position occupied by the morpheme as a lexical source remains unchanged through grammaticalisation). However, this is not to discount possible shifts in word order that must have been in currency at the time. Carey (1995: 90–1) also notes that the objects of verbs of communication and perception are less likely to be analysed as resultative in meaning (as were the earliest uses of the perfect) as the object was an entire clause or proposition; e.g. *We habbað oft gesæd and git secgað þæt cristes rihtwisnys is swa micel þæt he nolde nimen mancynn* ... 'We have often said and still say that the justice of Christ is so great that he would not forcibly have taken mankind' (*ÆC Hom* I 141 216.4). This would provide a semantic reason for their development into a perfect aspectual category. Carey (1994: 115) also notes the prevalence of mental state verbs and verbs of reporting in early perfects which do not allow for an analysis of their objects as having undergone a change of physical state necessary for a resultative analysis. Such accounts do not seem, therefore, to raise any questions from the point of view of grammatical change and the objectives of the present study.

The general approach of the studies thus relies heavily on the presentation of actual data, rather than isolated, constructed examples permutated and toyed with by the protagonists of a particular philosophical theory. The brief literature overview offered above [1.1–1.2], in presenting some of the recent problems on the definition of aspectual categories, may provide some background to enable the reader

8. Note the distinction, also pointed out by Abraham and Leiss (ms.) and Bybee et al (1994) between perfect (which includes anterior) and perfective – a term referring to a grammatical distinction (viewpoint), which in Bybee et al (1994) is believed to represent a grammaticalisation stage further than the perfect. Abraham and Leiss note, however, that the perfect in English was an innovation emerging after the perfective prefixes of Old English had disappeared.

to understand how little consideration has been given to the aspect-modality interface (though studies such as Abraham (1998; 2002) and Abraham and Leiss (ms.), for example, are significant exceptions), and the importance of viewing one verbal category from the point of view of another. However, it is not only the aspect-modality interface which is given consideration in the present volume; the questions posed in (1) offer the possibility of investigating a range of interfaces: the interface of lexical and grammatical aspect, the interface of causativity with aspect, and the interface of adverbial functions with aspectual functions. Structurally-marked categories should not be considered in isolation, as the verbal system is intricately interwoven into the general pattern of the grammar of a language in its entirety. The studies in this book, therefore, aim to present an overview of aspect and aspectual interfaces in English, seen from the various points of view of alternative grammatical domains, comparative language situations, and empirical, historical approaches. It is hoped that the perspective they employ will present itself as one of sufficient breadth and inclusiveness as to inspire and engage even further expansion of the field in future approaches to the topics covered in this volume.

CHAPTER 2

Imperfectivity and the English Progressive[1]

One of the most controversial areas of the study of aspect in English is that of the history of the English Progressive.[2] Because of the extent of such controversies, the history of its development makes an ideal objective for an alternative approach of investigation. Many earlier accounts have been influenced by too much focus on form at the expense of function (semasiological studies), a lack of attention to the universal features of progressives crosslinguistically, or an otherwise lack of rigorous constraint in applying such universals to the situation of one language, English. In studying the history of the English Progressive, one is faced with a barrage of sometimes speculative assumptions dating back to the beginning of the 20th century (e.g. Åkerlund (1911)), some attributing the source to a construction of the copula + present participle existing in Old English (e.g. Mitchell 1976; 1985, Traugott 1992, Brinton and Traugott 2005), and others dating the emergence of the present-day Progressive only from Middle English times (e.g. Bybee, Pagliuca and Perkins 1994; Jespersen 1949). The development of linguistic science over the 20th century and the contributions advanced by machine corpora have enabled much more rigorous results to be obtained in the past decade, one of the most recent studies being Núñez-Pertejo (2004), which provides a comprehensive overview of all of the literature so far.

Grammaticalisation studies in recent years have lent insight to the historical development of many grammatical categories in English, providing at times almost indisputable evidence for the passage of a lexical item or construction to develop

1. The first paper upon which this chapter is based was written and researched in a number of different places. Acknowledgement is therefore due to the Department of Linguistics, Michigan State University, and the Department of Phonetics and Linguistics, University College London, for their kind hospitality during the initial stages of development, and the Linguistics Department, Monash University, Australia, for later support. Thanks are also due to two anonymous referees of *Transactions of the Philological Society* (1999) for many helpful earlier suggestions. Any shortcomings naturally remain my own.

2. The term *Progressive* is capitalised throughout this chapter, in accordance with Comrie's (1976) practice of distinguishing the language-specific reference from a more universal notion of 'progressive' as a conceptual source of a variety of crosslinguistic constructions. This term is used throughout for descriptive convenience, even though earlier meanings may not always illustrate the aspectual senses associated with the use of the form in present-day English.

grammatical properties over time (e.g. the path of *be going to* in English (Hopper and Traugott 2003[1993])), itself a grammaticalisation from a Progressive aspect, and have also included reference to the English Progressive (e.g. Bybee, Pagliuca and Perkins (1994), Brinton and Traugott (2005)) as a grammaticalisation path. In the opinion of the present study, however, such approaches cannot go unquestioned. Many recent grammaticalisation studies, especially those incorporating a synchronic approach, have referred to the presence of distributional constraints on the use of a grammaticalising feature, which can be attributable to the effects of lexical retention from diachronically earlier meanings and functions. Examples of such instances are found in Hopper and Traugott (2003: 121), Bybee and Pagliuca (1987), and Ziegeler (1996; 1997). The evidence of restrictions in grammatical distribution is not only an indication of the lexical nature of the origins of the grammaticalising form, but also suggests that the development from an autonomous lexical item to a syntagmatically-constrained grammatical expression is not a sudden change, but a gradual one, and represented by a series of overlapping stages in which both lexical functions and grammatical functions may be seen for a time to interact (Hopper and Traugott 2003: 96).

Grammaticalisation processes have been typically described in the development of tense, mood, and aspect markers in many languages (e.g. Bybee, Pagliuca and Perkins 1994), and grammatical markers for tense, mood, and aspect in English have been included amongst the languages discussed. Regarding the grammaticalisation of the Progressive aspect in English, though, there are conflicting opinions as to its origin and the processes surrounding its development, the uncertainty of which has long aroused a great deal of curiosity and discussion. Given what is known about the synchronic effects of lexical retention, the present-day constraints on the grammatical distribution of some members of tense-mood-aspect categories may often be said to reveal something of the nature of their lexical origins; for example, the construction yielding the present perfect aspect in English is in some dialects restricted from use with past temporal adverbs, reflecting its origins as an expression of possession in the present. If the same pattern applies to the Progressive aspect in English, then, restrictions on its present-day distribution might be thought to provide a similar indication of its lexical origins.

Distributional constraints on the synchronic use of a form, though, need not always be an indication of lexical retention; the constraints could equally represent environments or meanings which are obsolete or becoming obsolete, as is the case for the origins of the modals *will*, *shall*, and *must*, which could be used in Old English as main verbs with noun phrase objects (see, e.g., Traugott, 1989: 37); the fact that the present-day grammatical distribution of modals is constrained from such environments has nothing to do with lexical retention, but rather with lexical loss. Therefore, the constraints on the use of the Progressive in present-day English with stative

verbs might reveal either that its lexical origins were highly agentive expressions, or otherwise that earlier stative uses are now recessive, and no longer part of the paradigm. Using historical sources primarily from Visser (1973), Denison (1993), Scheffer (1975), and the Helsinki Corpus, the present chapter will test the significance of the present-day distributional constraints of the Progressive against the historical data. It does not promise to offer a complete historical survey, as the undertaking of such a study would require an entire volume in order to do it justice. However, in the present analysis, it is also proposed to question whether the evidence provided in previous more comprehensive surveys suggests that the development of the English Progressive aspect can indeed be justified as a genuine case of grammaticalisation or whether another process underlies its historical development.

The chapter first considers the use of the Progressive in present-day English and discusses its interaction with grammatical and lexical aspect (Sections 2.1–2.3). Following this, the previous main arguments for the origins of the Progressive are discussed 2.4. In 2.5, a small sample of data from Old and Middle English is examined in order to determine distributional patterns of the form under question, the periphrastic *be + V-ende/ing* form. An alternative account of the historical development of the Progressive, which refers to a pragmatically-motivated reanalysis but not necessarily to a grammaticalisation route, is proposed in 2.6, linking the main arguments under an analysis of both functional and formal similarity. This account will also offer an explanation for the gradual increase, mainly between 1500–1699 (Visser 1973: 2011), of what will be referred to as the 'middle voice' Progressive, illustrated in the frequently-cited example: *The house is building* 2.6.2. It will be hypothesised that the meanings of durativity associated with the English Progressive aspect are an inference derived from a pre-Old English source of the participle form, initially a generic agent noun used adjectivally, developing into a participle used to express imperfective aspect, and later reinforced by the presence of the verbal noun with which it was believed to be subsequently amalgamated. Agentivity in the meaning of the Progressive is thus argued to be a consequence of the diachronic generalisation of the participle over an increasingly dynamic range of verb classes, as well as an inference from the developing aspectual senses of durativity, not a lexical property associated with earlier sources.

2.1 The Progressive in Present-Day English: Distributional constraints

Most text-book grammars of present-day English (e.g. Quirk et al, 1985) refer to the distributional constraints on the use of the Progressive aspect as prohibited with stative verbs used in a stative manner; that is, the use of the Progressive is

restricted to dynamic events, regardless of the kind of verb which may appear in such events. For example, *be* does not usually occur in the Progressive:

(1) *Sam's wife was being well-dressed."

(Quirk et al 1985: 198)

Thus, when *be* occurs in an expression in which the subject is in control of a state, as in (1), the meaning acquires the nature of temporariness:

(2) "And MUA leaders *are being* careful to keep the union out of the courts"

(*Reuters* On-Line, 3/2/98)

Some verbs have a lexical counterpart which is used for the dynamic equivalent of the stative verb, such as *have* vs. *get*:

(3) a. *Mary is having blue eyes.

(Quirk et al 1985: 200)

b. "We are making a reasonable profit from them and the customer is getting a good deal."

(*Business Review Weekly* On-Line, 31/1/92)

Other stative verbs which do not usually occur in the Progressive are those expressing, according to Quirk et al, 'inert perception and cognition'; that is, verbs which usually occur with a *that* – or a *wh-* complement, and typically do not have an agent subject; e.g. *understand*:

(4) a.* I am understanding that the offer has been accepted.

(Quirk et al 1985: 203)

b. "I understand that there is some concern in Asia about America's commitment... "

(*Sydney Morning Herald* On-Line1/1/92)

Others include a class of 'relational verbs', such as *belong, contain, equal, own,* and *resemble*:

(5) a. *We are owning a house in the country.

(Quirk et al 1985: 198)

b. "But when you look at it, we own 28% of Wapet and 40% of Woodside."

(*Business Review Weekly* On-Line, 17/1/92)

Quirk et al's prescriptions are not matched with any quantitative empirical data illustrating the actual extent of such constraints in a population sample, though they do list a number of 'exceptions to the rule' in which some of the verbs may be seen to be used in the Progressive when the verb belongs to a different class, that of an Activity verb; e.g. *smell* or *understand*. (5) and (6) are present-day examples:

(6) a. "Two more days here and I shan't know *I'm smelling* you."

Le Carré, 1990. *The Russia House*. VI.

b. "Now that I *am understanding* my cost, I must be able to relate logistics cost to the firm's profit... "

(*Reuters* On-Line, 30/10/95)

Examples such as (6), however, do not indicate how the verb actually changes its status from a stative verb of inert perception and cognition to an Activity verb, since in both cases the verb has the same lexical meaning. It would seem, therefore, that it is only due to the use of the Progressive that the sense of activity is attained. By such means, then, the Progressive has the capacity to 'activate' a verb which is normally defined by the inherent lexical semantics of stativity.

Palmer (1988: 72–3) lists the classes of verbs that do not take the Progressive as belonging to either 'state' verbs or 'private' verbs. The latter category appears to correspond to Quirk et al's 'verbs of inert cognition', such verbs referring to States or Activities that the speaker alone is aware of: mental activities and sensations. The other category, referring to States, includes those listed by Quirk et al as 'relational'. However, Palmer (1988: 71) maintains that duration is an integral part of the lexical meaning of such verbs, and therefore, that the use of the Progressive in such instances would be redundant. A similar position is also taken by Vlach (1981: 274), who contends that the function of the Progressive operator is actually to make stative sentences and that this is the reason that the Progressive aspect does not co-occur with stative verbs. Redundancy, though, may seem an inadequate argument to explain constraints, as can be seen, for example, in the frequent use of past tense morphology co-occurring redundantly alongside past temporal adverbials in English and other languages. Therefore, an alternative explanation is required.

Moreover, there is a subtle distinction between duration and stativity, and that is the degree of permanence that may be attached to a situation. While dynamic verbs appear to become more stative through the progressive sense of duration, stative verbs appear to become more active. The nature of the Progressive participle is processual, and this implies a non-permanent situation (unlike that of a state), relating to the quantisation of action over a time span. As such, one would anticipate that the origins of the Progressive would have been of a necessarily

agentive but extended situation of activity. Comrie (1976: 49) discusses the fact that a continuous, dynamic situation requires effort, often the internal effort of an agent, in order to be maintained. If there is agentivity associated with the use of the Progressive, then, it must be derived from the aspectual meanings describing a non-permanent, but a processual activity.

More recently, Michaelis (2004) describes the effect of stative verbs in progressive environments as coercion, a phenomenon which occurs when there is a 'mis-match' between the syntax and whatever lexical items may paradigmatically appear in syntactic slots. The coercion approach relies on an *a-priori* syntactic analysis to describe incompatibilities between the lexicon and the grammar, and ignores the possibilities that diachronic investigations might prove. According to Michaelis, in the semantics of the Progressive, the 'concord' feature is that of ACTIVITY – i.e. the lexical aspectual qualification occurring most harmoniously in progressive constructions. When a non-Activity verb, such as a State, is coerced into a Progressive construction, the resulting effect is to express a temporary state, e.g. (2004: 36): *I'm liking your explanation*.

Not only States, but also Accomplishments and Achievements have been described as coerced under this account. In, for example, *They were baking a fruitcake*, Michaelis (2004: 39) refers to the compatibility with the ACTIVITY feature being derived from the coercion of a sense of the preparatory process leading towards the culmination of the event. Though logically, the Progressive cannot entail the culmination of the event, only the potential for it to take place, the activity of baking can be verified. It would therefore be somewhat unnecessary to say instead: *They were baking what would be a fruitcake* (though with past time reference, the truth of the culminating activity can be known). Michaelis also finds that Achievements can be mapped onto the Progressive via the intermediate stage of Accomplishments, as in (2004: 17): *She was winning the race when she got tripped*, in which there is a mismatch between the instantaneous occurrence of an Achievement and the requirements for the Progressive construction to co-occur with Activities. In analysing such examples, Michaelis proposes that an Accomplishment representation is derived as output with an Achievement input, and the result is thus represented as effected. The coerced meaning, then, is similar to that of an Accomplishment Progressive. Later she adds that a construction like *She was winning the race*, though, is possible in that an Activity predicate is added to the causal representation of the input Achievement radical (2004: 40), and this predicate becomes available for 'selection' (but is the addition of an activity sense truly definable as coercion?). It is odd, though, that almost every verb type except Activities needs a coercion account – whether it is an event verb or a state verb. Again, the situation needs to be placed in a diachronic perspective to explain the semantic conflicts presented.

As noted in the Introduction, there are two possible explanations for the marginality of the present-day Progressive with stative verbs: either that statives are the last category to be included in an expanding generalisation of functions, or else that they represent the vestiges of an earlier range of functions which are becoming obsolete. If the former is the case, it suggests that the Progressive developed out of dynamic, agentive functions, and the inclusion of stative verbs in some uses today suggests a weakening of earlier agentivity requirements. Hopper and Traugott (2003[1993]: 104) do in fact suggest that progressives were earlier restricted to agentive situations and that the generalisation of the Progressive to include passive subjects and inanimate subjects with stative verbs (e.g. *There are statues standing in the park*) is an indication that the Progressive is becoming less restricted as far as agentivity is concerned. However, this development is not necessarily an indication of a broader historical pattern, and may represent only one localised stage in a longer series of developments, rather than a reflection of source functions. The present paper argues that agentivity is an increasing sense in the use of the Progressive ranging over a prolonged time period, not a decreasing one, and that diachronically earlier uses of the Progressive were of a more stative function in which the subject was not always an agent of the action described in the participle. In order to support such claims, it is necessary first to examine the nature of agentivity in association with both grammatical and lexical aspect.

2.2 Grammatical aspect and agentivity

In the present study, the definition of agentivity will be taken to include, prototypically, the notion of a cluster concept, as outlined by Dowty (1989; 1991) and Schlesinger (1995). Dowty (1991: 557) explains agentivity with respect to the features volition + causation + sentience + movement, while Schlesinger uses the terms CHANGE, CAUSE, and CONTROL to define a protoypical agent. While neither of these two accounts specify the superiority of one particular member of the cluster over another, it is worth noting, as Givón (1979: 336) claims, that many languages distinguish between intended and unintended causation, and therefore volition, and the implied features of control and sentience need not be essential features of the cluster. More important to the present definition of agentivity are the characteristics of cause and change brought about in another participant. Such characteristics are described by Dowty (1991: 572) as amongst the contributing properties for the Agent Proto-Role, since cause encompasses both volitional and nonvolitional agents (such as natural agents), and change is an implicature of cause, and as such, need not be stated.

The interaction of agentivity with aspect or tense is demonstrated as morphological limitations in some languages, and an ergative/absolutive split can be conditioned by tense or grammatical aspect, so that in the past tense or in the perfective, ergative/absolutive marking usually occurs, while nominative-accusative marking would be most likely to occur in non-past tenses or in the imperfective aspect. One example of such a split is illustrated in Indo-Aryan languages, in which ergative marking is triggered by the presence of perfective aspect or past tense, while nominative marking is triggered by the presence of imperfective aspect or non-past tenses, the reverse situation being unattested (Abraham 1996). Such evidence supports the proposal that nominals may only prototypically be described as agentive when in fact there is evidence (from the effect of a past event) that a causal force has resulted in the completion of an action on a specific affected object. The interaction of the grammatical marking for agentivity with other grammatical categories in this way clearly indicates a pragmatic basis for marking agentivity: it is only by reason of the speaker's knowledge of a situation in which change has taken place and is complete (i.e. perfective events) that agentivity may be determined with any confidence. For this reason, imperfective situations, therefore, such as habitual activities and durative, progressive actions, are not considered to be *prototypical* scenarios for the expression of agentivity.

2.2.1 Lexical aspect and agentivity

The interaction of the inherent lexical aspect of the verb with agentivity also presents interesting patterns. Lexical aspect in verbs has been broadly identified with, for example, punctual-non-punctual distinctions (Bickerton 1981), although much discussion has arisen in past studies over the distinguishing features of the four verb classes of Vendler (1967), and whether, in fact, two or more of the categories can be subsumed into one category (e.g. Kenny 1963 condensed Accomplishments and Achievements into a single class of 'performances' – see, e.g. Mittwoch 1991). From Comrie (1976), however, it can be seen that there do exist sufficient and precise means of distinguishing the four categories of Vendler, so that States and Activities are distinguished by phase (this was also discussed by Vendler), phase referring to the internal complexity of a situation. By this account, States have identical phases at any point at which the situation is interrupted, while Activities are made up of heterogeneous phases, such as in the Activity of running, when at any moment of interruption, the constituency of the action will be different from its constituency at another phase. Activities and Accomplishments are distinguished only by telicity or goal orientation, associated with Accomplishments but not Activities, and Achievements and Accomplishments are

distinguished by ability to co-occur with imperfective grammatical aspect, available only to Accomplishments.

Agentivity has been related to Vendler's four classes, and Van Valin (1993) discusses the use of a DO-operator as a formal means of identifying prototypical agentivity in the logical structure, or decompositional representation, of lexical verbs. If the operator can be retrieved from the semantics of a predicate and shown to have scope over its logical structure, it identifies the verb as agentive.[3] Achievements and Accomplishments, but not States, are found to show agentivity according to this definition, and with Activity verbs the operator is optionally present. Van Valin's proposal that an agentive operator with Activity verbs is optional is based on Holisky's (1987) discussions of the optionality of ergativity in Tsova-Tush (North Caucasian). In Tsova-Tush, for certain intransitive Activities, such as running down a hill, the subject may be marked either ergatively or nominatively, according to whether the Activity is volitional or not. From such accounts, Van Valin concludes that agentivity is a pragmatic phenomenon, and often determined contextually. However, this conclusion also underlines the basic identification of agentivity as inseparable from volitional agentivity which is regarded in the present paper as only one member of the prototype cluster of the category. Under a more general definition of agentivity, volitionality would not be a necessary criterion, and such intransitive Activities, which suggest imperfective lexical aspect, would therefore be dubious candidates for the expression of agentivity.

Brinton (1988: 32) notes that it is widely accepted that both agentive and non-agentive verbs may be found in the Activity and Achievement classes, although all States are non-agentive, but that the features of agency, causality, and modality should be kept apart from consideration with the lexical classes of verbs. As far as Accomplishments are concerned, Vendler (1967: 107–8) lists *grow up* as an Accomplishment, which is doubtfully agentive from the point of view of the feature Cause. However, for the most part, the verbs listed by Vendler as prototypical Accomplishments (and also those listed by Brinton: 1988: 241), are all unquestionably agentive

3. Hundt (2004) also discusses the presence of agentivity in the Progressive, suggesting first that it is a property of the subject and the entire construction (p. 52, n.8), later suggesting (p. 57) that agentive features of the subject must depend on the semantics of the predicate. If this is the case, then in the present study, the properties of agentivity are attributed to the participle alone, since this element creates in turn the agentivity associated with the subject; it carries the lexical meaning of the Progressive, the finite auxiliary having developed from a stative copula which can convey no agentivity in itself. Furthermore, the animacy of the subject does not contribute to its agentivity where it is the subject of a stative verb, and an inanimate subject such as one referring to a natural element or a scientific catalyst can be assigned agentivity if it is the subject of a causative action or reaction (though there are language-specific differences where these are concerned).

(e.g. *paint a picture, make a chair, deliver a sermon, write or read a novel*) and if Cause and Change are argued to be the minimally defining characteristics of agentivity, the clearest cases of agentive verb classes are the Accomplishments of Vendler.

2.3 Lexical aspect and the Progressive

The Progressive has often been used as a criterion by which to distinguish the verb classes of Vendler. Vendler explains the differences between the verb classes by the use of the Progressive aspect to illustrate co-occurrence constraints. His explanations for the link between Activities and the Progressive are largely truth-conditioned: one can truthfully suggest that an Activity may be interrupted at any given moment, and still remain a performed Activity, but the same cannot be said of Accomplishments or Achievements (1967: 100). For example, if a person is running continuously, and is suddenly interrupted in the process of running, then the Activity of running has still taken place. However, if a person is in the process of drawing a circle, and is interrupted in the middle of it, then s/he has not drawn the circle at the moment of interruption (1967: 100). Van Voorst refers to such differences as due to the measurability of a process; for example (1992: 69):

(7) They are building an outhouse,

with an Accomplishment verb, *build*, does not imply, at any given point in the process, that

(8) They built an outhouse.

However,

(9) They're even eating the food in office cafeterias

(1/1/96,*The Age* On-Line)

does imply, at any given point in the process, that

(10) They ate the food in office cafeterias

since the verb *eat* used in (9) is an Activity. Note that, although the verbs in (7) and (9) are both transitive, the lexical aspect of the verb is determined by the definiteness, specificity, or countability of the object noun phrase or other elements in the sentence. Thus, it is not possible to say, for example, that

(11) She was eating a sandwich

implies that if the process were interrupted at any given point, the statement

(12) She ate a sandwich

would be true. *Eat* is an Activity verb in (9) (and describes a habitual event) but an Accomplishment in (11), due to the nature of the direct object and the quantification of the process. For this reason, it can be seen that the use of the Progressive is conditioned by the lexical aspect of the sentence in which it appears, and that lexical aspect is a composite notion comprising not only the semantics of the verb phrase, but other elements in the sentence as well.

Thus, it is clear in Vendler's verb class distinctions that there is a natural attraction between the imperfective aspect of the lexical class of the verb and imperfective grammatical aspect, so that Activity verbs and the Progressive seem to fall together, and variations in the countability and specificity of the object noun phrase can impose an Activity reading on verbs which, when decontextualised, do not rank normally as Activities. The use of a non-specific, plural noun object, as in (9) in the object of the preposition, creates an Activity, which may be realised as a clausal characteristic, rather than a verbal one, since the non-specific nature of the noun phrase *office cafeterias* has semantic 3scope over the entire verbal object, in spite of the more specific reference of the head noun phrase, *the food*. However, when the Activity is telic, as in (7), there are problems interpreting such sentences truth-conditionally. Depraetere (1995: 1–2) defined such sentences as telic but not bounded, referring to telicity as a potential attribute and boundedness as an actual one (see also the discussion in 1.1.2, and Capelle and Declerck's (2005) comments on the differences where such features are concerned). As noted in Chapter 1, Dowty (1979) described such situations as 'the Imperfect Paradox' (pp. 133–92, passim), resorting to explanations suggesting that the truth of a sentence must be measured over an interval of time, rather than at a moment in time. His conclusion that with such sentences the Progressive should be considered not only as a temporal operator, but as a modal-temporal operator (1979: 146), suggested that the possibility that the truth value of a Progressive statement was affected was because, as an unbounded operator, it has scope over a bounded predicate, creating inferences of prediction.

Dowty's concerns over the truth-value of the Progressive when co-occurring with Accomplishments are related to the semantic conflict between imperfective grammatical aspect and perfective lexical aspect, as discussed in Chapter 1. Because the relation between grammatical and lexical aspect in such situations can only be pragmatic, modal meanings are often the result and there is no semantic compatibility between the two types of aspect. Although Dowty's references to the Progressive as a *temporal* operator do not seem totally accurate (since aspect is neutral with regard to time), his observations of a modalising propensity appear well-founded, since similar paradoxes are found where stative lexical aspect inter-

acts with perfective grammatical aspect. It will be seen elsewhere in the present volume, that such paradoxes are at the basis of the grammaticalisation of modality as a distinct verbal category (see Chapters 5 and 6, where modality arises out of the co-occurrence of non-stative (perfective) lexical aspect with imperfective (generic) grammatical aspect).

Verkuyl (1989) is of the opinion that the Progressive is restricted from co-occurrence with States and Achievements, because of a link with the agentive nature of the Progressive itself. While many Achievements such as *lose* and *recognize* may be considered to be non-agentive, others, as listed by Vendler (1967: 107–8), such as *cross the border*, or *start*, *stop* or *resume* something, must surely be agentive in nature, being causal actions. Although Verkuyl lists one non-agentive Achievement as an example, *Colgate is starting to score some coups of its own* (1989: 45),[4] the variety of verbs included in this range would seem to indicate that it is not the absence of agentivity which precludes some Achievements from co-occurring with the Progressive, but the fact that when the Achievement verb refers to a singular, punctual event in time, the Progressive is often unlikely, e.g. **She is recognizing a friend here* (Brinton, 1988: 41).

Van Voorst (1992: 69) also discusses the interaction of Achievements and States with the Progressive, suggesting that when Achievements and States do admit the Progressive, they may take on the nature of Activities. For example,

(13) ... the advancing Russians were bombing Lvov

(7–8/3/98, *The Australian Review)*

suggests at any moment of interruption that

(14) The advancing Russians bombed Lvov

is true, but that this is because the bombing went on continuously, in an iterative manner (this cannot be said of Brinton's (1988) example above). Achievements such as in (13) (which normally refer to perfective, punctual events), therefore, allow the use of the Progressive, but often with an imperfective, iterative or habitual interpretation. Other interpretations provided for progressive Achievements might include developing processes; e.g. *He is leaving/arriving/dying* (Mittwoch, 1991: 76), and also *Agatha is winning* (p. 74). Comrie (1976: 37) interprets some States in the Progressive as developing processes (see (6)), since in such cases the individual phases are perceived as different from one another. Postural States are also allowable, insofar as they provide a sense of temporariness. For example:

4. This example, which uses an inanimate subject to illustrate non-agentivity, might instead be considered as agentive if the meaning of *Colgate* were actually a metonymic extension of the meaning 'the people working at Colgate' (see Lakoff, 1987: 77).

(15) That statue is standing on the corner of Peel and René-Lévesque

(Van Voorst 1992: 69)

possibly suggests that the statue is only in position temporally, and may be moved at any time. (16) is an example of an even more mobile subject:

(16) Ambulances were standing by near the smoking 11-storey building...

(6/1/96, *The Age* On-Line)

However, inanimate subjects which are not capable of being mobilised by an external agent are rarely found in the Progressive co-occurring with verbs expressing postural states, as in:

(17) ??Sydney is lying on the shores of a beautiful harbour

(given that *Sydney* refers to the city, and not to a person.) Other states of geographical permanence which may appear odd include:

(18) ??The Yangtse River is running through the northern part of China[5]

though in (18), the conflict arises between the permanence of an expression of a geographical fact and the temporariness suggested in the use of the Progressive. It is the permanence of States which Van Voorst finds incompatible with the use of the present-day Progressive. The Progressive serves to express actions of temporary but indefinite duration, and this is why Activities are considered to be most compatible with its use (1992: 75–76). Activities express imperfective lexical aspect, and this is naturally most readily compatible with imperfective grammatical aspectual functions such as the Progressive expresses.

However, Verkuyl (1989: 46) finds that Progressive sentences such as *The village was lying in the valley* have a discourse function in that the narrator is using the Progressive to describe the state of the village as if s/he had just arrived on the scene; i.e. in an almost meta-textual fashion. That is, the use of the Progressive in such sentences becomes highly subjectified in the expression of the discourse, so that instead of a literal interpretation, which would imply that the village was only temporarily lying in the valley, there is a metaphorical sense of temporariness associated with the textual use of the Progressive. Thus, the inferences of temporary duration implied in the normal function of the source structure, the Progressive, are transferred to a target function, to refer to the narrator's temporary duration and subjective viewpoint within the scene described. Similar uses of the Progres-

5. Note that, in such examples, the *-ing* participle is quite acceptable when the clause in which it occurs is non-finite, e.g. *The Yangtse River, running through the north of China, is one of the most expansive waterways in the world*. See section [2.5.2] for further discussion of such differences.

sive have been described by Wright (1995) as the experiential Progressive, in which the aspectual meanings do not belong to the content of the utterance but to the speaker's progressively developing belief state; e.g. *You're telling me you don't love me anymore* (p. 156), which could be said to have an epistemic interpretation..

Thus, the role of lexical aspect in constraining the use of the Progressive is such that Accomplishment and Achievement verbs, which are rated highest in agentivity, are not those most readily associated with the Progressive. Activity verbs, which are less likely to be rated as highly agentive, are readily associable with the Progressive aspect, but co-occurrence with the Progressive for any verb class appears determined rather by the potentiality of the subject to enter into or withdraw from the durational activity described in the verb than by its combination with a particular verb class. This potentiality means that inanimate subjects incapable of movement, and used with verbs expressing postural States such as (15), are clearly non-agentive, but they are compatible with the Progressive due to extra-linguistic knowledge that they refer to objects which are manipulable by an external agent, and therefore refer to potentially temporary situations. When the subject is not manipulable, as in the postural states illustrated in (17) and (18), the only interpretation possible is that the Progressive is being used pragmatically, as a means of expressing the speaker's subjective attitude towards the situation or of the temporariness of the speaker's involvement in the speech situation described.

Given that the differences between Activities and States are measured in terms of phase differences, it could be argued that in an Activity, completion of an action may be measured in quantified phasal sub-events, each of which is complete and perfective in itself, and this is sufficient for the inferences of agentivity to arise. However, the further question which remains is, at which stage is the speaker's reference-point in using the progressive with Activity verbs, mid-way between one completed sub-event and another, or at the end of one sub-event? This is not explicit in its use. Even if it were at the end of one sub-event, the use of the Progressive would imply the prediction of further subsequent sub-events, otherwise the description of the action would require the perfect aspect. As discussed in Chapter 1, Dowty (1979: 150) believes the prediction of the continuity of an Activity after a given (time) reference point is simply an invited inference, due to conversational principles (as shown in examples such as, *John was watching television when he fell asleep*, in which the inference is cancelled). If the speaker's reference point extended across an interval of time during which the Activity occurred, the boundaries of that interval are not explicit in the use of the construction either. The potential for the Progressive to indicate prediction after the moment of speaking or after a given temporal reference point is one reason why agentive senses seem weaker with Activities: the agentive effort required to sustain a process which cannot be predicted to have a terminal point is less than the effort required for the Activity

to terminate in a change, especially in another entity. It is for this reason that it is believed that the Progressive co-occurring with Activity verbs is considered only weakly agentive.

The increased senses of agentivity associated with (1), (5) and (6), therefore, may only be present because of the nature of the durative aspectual meanings overlaid on the verb – providing inferences of agentivity as a feature of a sustainable process. Agentivity may therefore be related to the later-developing aspectual senses of the Progressive, not a retention from earlier, non-aspectual stages of grammaticalisation. A review of historical evidence will support this claim.

2.4 The diachronic development of the Progressive

Some of the variety of accounts of the history of the English Progressive are comprehensively summarised in Núñez-Pertejo (2004) and Denison (1993: 397–410) who separates them into Old English explanations and Middle and Modern English ones. It appears that there are two main arguments which describe the grammaticalisation of the Progressive in history – one relying on sources dating back only to Middle English times, which will be referred to as the 'Locative Source account' (this is the argument used in most grammaticalisation explanations, as seen below) and the other which dates the Progressive ancestor at a much earlier period in Old English, referred to here as the 'Reanalysis account'. An additional argument for the reanalysis of the construction is provided by Warner (1993; 1995; 1997) who, using a HPSG framework, analyses the changes which took place in the categorial description of the auxiliary *be*. The present study, however, focusses more on the developments which took place in the meaning of the participle form as the motivation for the durative senses associated with progressive aspect. The two main arguments will be summarised briefly below 2.4.1–2, and additional evidence of earlier diachronic uses of the Progressive with stative verbs which are not considered compatible today is presented in 2.4.3.

2.4.1 Locative sources

Heine (1994a) discusses the development of progressive aspects crosslinguistically as having grammaticalized from a range of lexical source schemas, the most common of these being the following six: (i) the Location Schema ('X is at Y'); (ii) the Action Schema ('X does Y'); (iii) the Equation Schema ('X is a Y'); (iv) the Manner Schema ('X stays in a Y manner'); (v) the Accompaniment Schema ('X is with Y'); (vi) the Sequence Schema ('X V1 X V2') (1994a: 269). He also argues, after Comrie (1976), that expressions referring to an entity located in space will also

serve as metaphors for the conveyance of temporary states, contingent situations and progressivity (ibid.) It is this argument, coupled with the evidence of erosion of morphological and phonological material in grammmaticalizing progressives, that has led others such as Bybee, Pagliuca and Perkins (1994) to propose a source similar to the Location Schema, (i), as the sole origin of today's Progressive construction in English. Evidence of such development is given, for example, in Welsh by Heine (1994a: 276), citing Comrie's (1976) examples:

(19) Welsh
y mae hi ***yng*** *Nghaerdydd*
'she is in Cardiff'

(20)
*y mae hi'****n*** *canu*
'she is singing' (Comrie 1976: 100)

illustrating clearly how the path of grammaticalisation of a progressive can be traced from a locative expression using a spatial preposition, *yng* 'in'.

Such instances are usually felt to represent the same processes which caused the earlier form of the Progressive, as in 'He was at/on/in hunting' to develop into a later form 'He was a-hunting' (now found only in archaic or dialectal use), and finally with the disappearance of the prefixal *a-*, into the present-day form of the Progressive. In its earliest form, the *-ing* suffix therefore marked a verbal noun or gerund, rather than a verbal participle. This form was found to be rare in Old English (Scheffer 1975: 244; Denison 1993: 387), and Visser (1973: 1994) find only five examples in Old English texts, therefore concluding that the descent of the modern Progressive construction from such a source is difficult to prove. Scheffer (1975: 245) dates the appearance of forms modelled on the source construction *to be in doing* to the second half of the 13th century; for example:

(21) that contre is in quakynge
'that country is quaking'[6]

(*The Romance of Sir Beues of Hamtoun*, MS. M, 1.2647)

and Visser's dates the earliest form first appearing with the reduced prepositional form *to be a-doing* to around 1387.

Bybee et al (1994) consider that the modern Progressive in English was a direct descendent from the locative expression with a verbal noun, any earlier possible sources having long disappeared before it emerged. Dal (1952), cited in Deni-

6. Old English has a gerund, *cwacung*, which is likely to have supplied the source for the development of such constructions (Hall 1960).

son (1993: 401) also agrees that any earlier forms had disappeared before being replaced in Middle English with *V-ing* forms, which she claims were influenced by Celtic analogies of a verbal noun rather than an infinitive following a preposition; Denison (1993: 402), however, dismisses most of the evidence as circumstantial and speculative. Grammaticalisation processes usually assume continuity of development, and if the appearance of this form virtually never occurs in Old English, then a grammaticalisation account would assume that the present-day Progressive was relatively late developing. Visser finds the form appearing very frequently throughout the entire Middle English period (1973: 1994).

As the object of a spatial preposition, the verbal noun could express the location of an activity, and, because of this, Bybee et al (1994: 136) propose that the original construction expressed the meaning of: "... an agent is located spatially in the midst of an activity at reference time." It is further considered that the requirement of agentivity in the subject is gradually expanded to include the subjects of developing states (ibid.), and it is this schema which provides the lexical source for the present-day Progressive. The development from locational meaning to aspectual meaning is considered to be via a shift of meaning from locative meaning to temporal meaning. This would seem to imply that a metaphor of space-to-time is involved, but Bybee et al maintain that the temporal meaning was there from the beginning, since to be involved spatially in an activity is to be involved temporally in it, and that it is the locative meaning that is gradually eroded (1994: 137).

What is of interest here are two important points. First, it is frequently assumed that aspect expresses temporal meaning, and Scheffer (1975: 179) also uses the term 'temporal' with reference to the Progressive, when in actual fact, the meanings expressed are of 'temporariness', or contingency (Comrie 1976), which are independent of time reference. Second, it is often considered, as stated earlier, that the subject of a progressive construction is an agent, because the meaning suggests that the subject is involved in the midst of the activity referred to. Given the definitions of agentivity outlined above (Section 2), it is doubtful whether spatial location can be a criterion for agentivity, since spatial location expresses a *state* of the subject (whether permanent or temporary), and requires that the finite verb used for this purpose be stative (in the case of English, *be*; in other languages, verbs with meanings of 'sit', 'stand', 'lie', 'live', or 'stay' may be used (Heine 1994a: 270)). Moreover, one would not be justified, for example, in suggesting that a sentence such as

(22) He was on hunting

had any more implications of agentivity in the subject than *He was on the table* and yet both expressions are locative and contain a nominal complement. (22), however, is assumed to express a highly agentive situation. Therefore, if any agentive meaning

is implied in the locative expression 'X is at (on/in) Y', it is derived from the verbal origins of the noun itself, not from the finite verb, since *be* is a stative verb.

One question which arises in connection with the locative expression is the likelihood of evidence indicating a possible shift from forms such as (22) to present-day forms without a preposition. Denison (1993: 404) cites Mossé (1938) in suggesting that the present-day form was not derived from the Middle English sequence *be + on V-ing > be + a-V-ing > be + V-ing*, since the preposition *in* was more common than *on*. Visser (1973) also lists a higher number of *in* forms than either *on* or *at*, though in Visser's examples the *in* form as well as the *a-* form are seen to co-exist well into the 20th century, while both the *on* and the *at* forms are found only up until the Early Modern English period. Moreover, the highest number of prepositional forms Visser cites (93) comes from the *a-* variant. Although some accounts have no problem with the shift from *be + on V-ing > be + a-V-ing > be + V-ing* (e.g. Jespersen, 1923: 209), Denison's (1993) data seem to suggest an older form co-existed independently at the same time as the verbal noun. Denison (1993: 405) notes that the number of prepositional forms was not very high, and Nehls, who claims that the verbal noun began to acquire the functions of a gerund by the end of the 13th century (1988: 181), considers the form relatively rare in 17th century writings (p. 184). Núñez-Pertejo (2004: 99–100), citing Brusendorff (1930: 243) points out that the use of the prepositional form was virtually unknown before 1300 (around the same time as the Old English *be + V-ende* form started to disappear), and its frequency was not very high throughout the 14th and 15th centuries either. She also alludes to the functional parallels between the two forms, frequently noted in the literature, but suggests at the same time that the Middle English *be + V-ing* form began to show more definition than the *be + V-ende* form in its function of marking the Progressive.

Although rarely found, some examples of the prepositional form have been observed in Old English as well. Little significance has been attributed to them, probably because they could be mistaken for prepositional verbs. Núñez-Pertejo (2004: 82–83) discusses such appearances, quoting Åkerlund's (1914) mention of them as a 'ghost-phrase'. She also notes the possibility that a compound structure might be involved (2004: 116). In the Old English part of the Helsinki Corpus surveyed in the present study,[7] one example of a preposition followed by the OE present participle appears very similar to the later locative expressions:

(23) þonne he þa oferswiðed hæfde þe he þonne ***on winnende wæs***

(850–950) *Orosius*.
R 7.112.23

7. See [2.5] for details of the texts covered.

Giles' (1969) gloss of the example above is 'when he had overpowered those against whom he was then at war', and an earlier example simply glosses the verb *winnende* alone without the preposition as 'at war'. It is likely that the preposition is part of the verb complex ('to be at war/warring *against*') and not a marker of a locative expression in this case. Whatever the function of the other cases mentioned by Núñez-Pertejo (2004), they are not of sufficient number or significance to have developed towards the Middle English locative expression.

Mossé also maintains that the fact that the prepositional forms were usually intransitive was evidence that the form in Middle English was always a verbal noun rather than a participle. Visser (and Dal, 1952) are also cited by Denison as observing the absence of direct object complementation in the prepositional form, which would otherwise indicate verbal status (1993: 374). It is worth noting, from Visser's examples, that Activity verbs feature predominantly with prepositional forms: for *on*(*upon*) + *V-ing* the sample of 23 includes only 2 examples which are not Activities and not intransitive, one of which does not appear until 1661:

(24) I am upon writing a little treatise to present to the Duke

Pepys. *Diary* (ed. Braybrooke) 31 Dec. (Visser, 1973: 1998)

Of the larger sample of 67 forms listed by Visser as occurring with the preposition *in* (+ *V-ing*), only 5 examples are not Activity verbs; these use the verbs *in falling, in making* (+ direct object), *in dying*, and *in breaking... weaving* (a web). The first of these occurs c1450 (*in falling*), and the sample includes only 11 transitive verbs. The number of forms listed as appearing with *at* is very small (only 15), and includes no verbs which are not intransitive Activities. The sample of *an/a-* forms listed by Visser is quite large (95), and includes only 12 examples which are not Activities, and only 15 transitive forms, of which 6 are Activities. These figures are summarised in the following table (Table 2.1).

Table 2.1 Summary of prepositional forms of the Progressive (*on*, *in*, *at*, *an/a* + *V-ing*) as appearing in Visser (1973: 1998–2002), showing distribution of transitivity and verb classes

Preposition	No.	Activities		Non-Activities	
		Transitive	Intransitive	Transitive	Intransitive
on/upon	23	0	21	2	0
in	67	8	54	3	2
at	15	0	15	0	0
an/a-	96	6	78	9	3

If there was a predominance of intransitive Activities in the use of the prepositional forms, then, this is also an indication that the construction was initially less strongly agentive than if it co-occurred with transitive Accomplishments and verbs of a more telic or terminative nature. The eventual loss of the spatial preposition, then, to result in Progressives of the present-day type *He is hunting*, must have been accompanied by an increasing development toward a more verbal status, and, given that the gerund is active or dynamic in nature, an increasing, rather than a decreasing, sense of agentivity as the expression generalised to new environments. Strang (1982: 443) testifies that subject selection for human or animate subjects of the Progressive was significant in the eighteenth century novel, as is the number of what she labels 'activity' verbs (though she does not state any reference to Vendler's Activities): *prepare, make, read, write*, *drink, walk, stir, smoke* (a pipe), *get, go, die for, endeavour, dress* (transitive). (It should be noted that she restricts discussion to narrative prose and past tense only.) Strang's list of 8 eighteenth century novels are seen to contain no Progressives with inanimate subjects (1982: 443). If agentivity may be considered a lexical property of certain verbs, these statistics do not appear typical of grammaticalisation processes, which usually refer to the bleaching of lexical meaning at later stages. Instead, the participle appears to be gaining in lexical strength to become more verb-like and imply greater senses of agentivity in the subject, and consequently, in the construction as a whole. While aspectual meanings of duration appear to be a grammatical consequence of this development, the loss of semantic (and morphological) material in the prepositional phrase forming the locative source is at the same time accompanied by an increase in the semantic properties of the participle form as it becomes part of a verbal complex. Such developments are not expected in prototypical cases of grammaticalisation.

2.4.2 Reanalysis

Reanalysis is a process often associated with grammaticalisation, in that it involves a change in the semantic interpretation of an expression which is not affected by any modifications of surface structure (Heine & Reh 1984: 95; Langacker 1977). An example in English is the grammaticalisation of the future marker, *be going to* from a Progressive with a directional verb and a complement of purpose (*be going [to V]*) to an auxiliary with future meaning but little or no sense of directionality in the meaning (*[be going to] V*) (Hopper & Traugott 2003[1993]: 69)[8]. In this example, the surface structure of the expression remains unchanged while the meaning

8. The shifts in the bracketing shown in this example indicate a semantic reanalysis, not a structural one.

shifts to that of an auxiliary-verb complex, the auxiliary form being semantically reduced. In this way, grammaticalisation has taken place via a reanalysis or re-interpretation of the form of the construction, associated with semantic change on the syntagmatic axis (ibid.)

Many diachronic accounts of the Progressive trace the origins of the present-day Progressive to Old English times, noting the appearance of a form *be* (i.e. *beon/wesan*) + *V-ende*, occurring long before the prepositional, locative source type appeared (though this was not entirely absent in Old English – see above). Amongst such accounts are included Brinton and Traugott (2005), Denison (1993), Mitchell (1976; 1985), Nehls (1988), Nickel (1966), Núñez-Pertejo (2004), Scheffer (1975), Traugott (1992), and Warner (1993). Traugott (1992), amongst others, noted that the form was often associated with intransitive verbs, many of which denoted activities already possessing an inherent quality of duration, such as *wunian* 'live', *faran* 'go', *cweflan* 'speak', *feohtan* 'fight', *libban* 'live', and *growan* 'grow'; for example,

(25) ...þæt scip **wæs** ealne weg **yrnende** under segle
... the ship was all way running under sail
'that ship was running under sail all the way'.

(*Or* 1 1.19.32)

The possibility of restriction to intransitive Activity verbs is also supported by evidence from Denison (1993: 399) who (citing Nickel 1966) notes that the Progressive is rarely used with an accusative object in Old English generally, and that it is never used with verbs prefixed by *a-*, *be-*, *for-*, *ge-*, *ofer-*, *of-*, *on-*, or *to-*. All these prefixes except for *on-* are listed by Brinton (1988: 202) as expressing telicity (rather than perfectivity), and telic aspect is usually associated with Accomplishment verbs (see 2.2.3), indicating that at least for one subset of Accomplishments, occurrence with the Progressive is not attested. Scheffer (1975: 175) also observes the absence of the Progressive with *ge-* prefixed verbs, suggesting that they provide a meaning of terminal lexical aspect.

Traugott cites Nickel (1966) in listing three possible sources for the construction in Old English: (a) *be* + predicative adjective; (b) appositive participles; and (c) *be* + agentive predicate nominal, adding a fourth possibility, in which the present participle corresponds to a deverbal nominal derived from a form ending in *-ung/-ing* (1992: 188–189). The last possibility, discussed above (2.4.1) as equivalent to the later locative expression, seems to have been relatively infrequent compared with the *be* + *V-ende* form (Visser provides only 5 examples – as noted above). Mitchell (1985: 279) supports Nickel (1966) in proposing that the Old English form was a blend of the first three sources.

The first three possibilities (a-c), though, all involve the reinterpretation or reanalysis of the meaning of an original construction: in (a) forms such as *hie wæron blissiende* 'they were happy', were originally of the form copula + adjective, occurring alongside forms such as *hie wæron blifle,* and reinterpretation resulted in their being gradually absorbed into a verbal structure (Traugott 1992: 188). In (b), reinterpretation was seen as the result of word-order variation, as appositive participles could be reanalysed as part of a verbal complex when placed alongside the finite verb: *he wæs on temple lærende his discipulas* > *þa he on temple wæs lærende his discipulas* 'he was in the temple, teaching his disciples' > 'when he was teaching his disciples in the temple'. The third possibility (c), is the result of a reinterpretation or reanalysis of the agent nominal form (and of the genitive into an oblique case), which also ended in the suffix *-end, -ende* in the plural, so that expressions such as *hie wæron ehtende cristenra monna* 'they were persecutors of Christian men' could be reinterpreted as 'they were persecuting Christian men' (Traugott 1992: 188).

Scheffer (1975: 132) attributes the origins of the present-day Progressive to (a), the adjectival reanalysis, though he considers that reanalysis of the type shown in (b) must have contributed to the increased frequency of use of the form. Visser (1973: 1929–30) also notes the appearance of an agent noun of a similar form to the participle, but notes that the agent nominal will always appear in the form *-end*, never as *-ende*, which distinguished it from the participle.[9] It is also observable that the singular agent nominal very often is combined with a genitive object; for example (Visser 1973: 1929):

(26) God **is** ealra þinga **reccend.**
God is of-all things ruler
God is ruler of all things.

(*Boethius* 166, 9)

If it is the case, as noted above, that the antecedent of the Progressive participle initially occurred mainly with intransitive verbs then an explanation would be required for such occurrences as part of the early history of the Progressive. However, it is interesting that even when the form was declined as a participle, having the *-ende* form, it did not always appear to admit direct accusative objects, some object nominals occurring in a genitive form. Nickel (1966) is cited by Denison (1993: 399) as observing that the verbs which could take either an accusative or a genitive object were always found to take an accusative in the simple form and a genitive in the Progressive, and uses this as evidence for the agent nominal as a

9. Although this distinction is observable in written texts, it cannot be assumed that it was consistently preserved in spoken form as well.

source. The following example is used by Scheffer (1975: 135), and the translation and gloss are loosely constructed from the four translations cited:

(27) swa se secg hwate **secgende** **wæs** laðra spella; he ne
thus the warrior brave teller/telling was of-evil news he not

leag fela wyrda ne worda
lied many facts nor words

'Thus the brave warrior was telling/a teller of evil news; he never lied in facts nor words.'

(*Beowulf* 3028–3030)

The translations given by Scheffer are ambivalent between an agent-noun translation and a participle, and Mitchell (1976: 483) also finds the translation ambiguous. However, Scheffer suggests that *secgende* is more likely to be a participle in (27), given the context, and the ending also seems to attest to this. Moreover, not all objects appeared in the genitive; Warner (1993: 96) provides one example:

(28) ðæs modes storm se symle **bið cnyssende** ðæt scip ðære heortan
'the mind's storm, which ever tosses [lit.: is battering] the ship of the heart'

CP 59.4

which gives no indication of any ambiguity between an agent-noun interpretation and a participle one. If anything, then, the ambiguity perceived in (27) could be suggested as evidence of an overlap between two ordered stages of development, so that Nickel's three constructions could be explained as evolving out of one another rather than appearing as an indistinguishable blend (see also 2.5.1).

It should be noted, though, that of the three possibilities (a-c) cited in Traugott (1992) the subject might be considered an agent in (b), but only a weak agent in (c), if at all, since any traces of agentivity implied in an agent noun can be only inferences derived from the verbal origins of the nominal form – the copula is stative *be* which does not normally imply an agent subject. The fact that in a transitive source such as (27) the object appears in the genitive is more evidence still for the lack of agentivity of the subject, as an agentive construction would more typically express the object in the accusative as an affected patient. The genitive object, then, seems to do nothing more than provide further information about the complement noun. Thus, if it were shown that the Progressive was derived from such sources, then the agentivity associated with its use would be a later development, and not related to its original sources.

Traugott (1992: 190) concludes that the *be + V-ing* construction of the later history of the Progressive is traceable to Old English sources mainly as a nominal phrase rather than a verbal complex, but maintains that the nominal was equivalent to the form of the verbal noun or gerund, rather than an agent noun. Heine (1994a: 271) considers that the source schema for the progressive in most European languages has a nominal main verb, usually either the agent noun, encoded in the Equation Schema (iii) or a gerundial form, encoded in the Manner Schema (iv), and in languages such as Italian, it is often difficult to tell which schema provided the source model. He also notes that it is quite often the case that more than one proposition may provide the source for the development of the progressive form in one language (1994a: 270).

For this reason, it has often been proposed that the present-day Progressive was the result of an amalgamation between the Old English *be + V-ende* form and the locative form (Denison 1993: 387; Jespersen 1931: 169; Mustanoja 1960: 587). Scheffer (1975: 244) also cites Jespersen's position and adds that it was the phonological change of the ending of the participle from *-ende* to *-ing* that resulted in this amalgamation (1975: 248), making the form of the participle identical with that of the gerund, and accounting for the increased frequency of use of the form during the Middle English period. Nehls (1988) also reports on the formal merging of the *be + V-ende* form with the gerund form discussed in 2.4.1, but considers that the functions of the older form and those of the gerund form did not blend until around the 17th–18th centuries. If such accounts were correct, then it would appear that there was a continuity from Old English of the form marking the present-day Progressive, and that it did not arise spontaneously out of forms such as *He is at/in/on hunting* at later stages of the history of English, although such forms must have contributed to its subsequent establishment and development.

2.4.3 Stative senses in earlier uses

In the preceding sections, we have established that, when used with States, which are only marginal domains for the use of the Progressive, the Progressive lends a sense of dynamism to the situation, implying more agentivity in the subject than is found in a non-progressive use. Present-day uses, therefore, seem to suggest that the Progressive is restricted to dynamic situations, or to those which can be interpreted as occurring within a temporary durational time span, and therefore implying the agency of the subject to enter into or withdraw from the activity described, and the capability of the subject to undergo change.

However, if the Progressive can be seen as developing from the *be + V-ende* form of Old English, some uses of the Progressive in Old English seem to suggest an aspectual use of a much more permanent nature. Such uses are illustrated

in (27–8); another is given by Bybee et al (1994: 135), from Ælfric's *Lives*, I, II. 52–55:

(29) Sume **syndan creopende** on eorðan mid eallum lichoman, swa swa wurmas doð. Sume gað on twam fotum, sum on feower fotum, sume fleoð mid fyðerum.

Some creep on the earth with their whole body, as worms do. Some go on two feet, some on four feet, some fly with wings. (emphasis cited)

Bybee et al describe the context as referring to the creation of creatures of various forms and manners of movement, thus suggesting that the use of the Progressive form in this example is to express a generic quality of the subject, not an activity in progress. Because of this, they conclude that it is unlikely that such senses provided the sources for the modern Progressive aspect. The use of the Old English form to express habitual or recurrent action is also noted in Mitchell (1985: 275).

A similar example of such a use is in Traugott (1992: 187):

(30) Europe hio onginð ..of Danai þære ie, seo **is irnende** of
Europe she begins from Don that river, that is running from
norþdæle & seo ea Danai irnð þonan suðryhte
northern-part and that river Don runs thence due-south
on westhealfe Alexandres herga
into western-part Alexander's kingdom

(*Or.* 1 1.8.14)

'Europe begins at the river Don, which runs from the North... and the river Don runs thence due South into the Western part of Alexander's kingdom.'

Traugott notes that not all Old English forms of *be* + *V-ende* can be translated by present-day equivalents, and, moreover, finds that the switch from the Progressive form *irnende* to the simple form *irnð* is neither syntactically nor semantically motivated. Mustanoja (1960: 595) also notes that the Middle English construction was frequently used for geographical descriptions which described an action of a permanent nature, as in John Gower's *Confessio Amanti*:

(31) the flode **is** Into the grete See **rennende**

which could be translated in present-day English roughly as 'the river runs into the great sea' – using a non-progressive form of the verb (note the anomaly of (18)). Mustanoja attributes this use of the Progressive to a desire to make the description more graphic. However, it should be borne in mind that at that time the use of the predecessor to the Progressive did not carry the same restrictions of temporary

duration that are found in today's Progressive, so there was no reason for it not to be used in such cases of permanent duration.

Clearly, though, the two forms of Progressive and non-progressive appearing alongside each other, in both (29) and (30), and apparently expressing the same senses, indicate that there are two forms serving one function, and a formal overlap of this kind has been described in grammaticalisation processes by Hopper (1991) as 'layering'. Mitchell (1976: 484) also finds a number of examples of this kind. What this may mean is that in such instances, the Progressive is employed to serve the same functions as the simple form, that is, to express a generic or habitual state of a more permanent nature than it does today. This may assume a more attributive function for the present participle at the time, indicating that it could have served as a deverbal adjective, in much the same way as a passive participle does, for example, in present-day expressions such as *The window is broken.* Another example from Middle English in which the Progressive participle (*bylevyng*) occurs alongside the simple form (*holden*) is given by Mustanoja (1960: 595):

(32) ... we holden on the Crysten feyth and **are bylevyng** in Jhesu Cryste

Caxton: *Blanchardyn and Eglantine*

The Progressive today is not usually compatible with verbs of inert perception or cognitive states such as *believe* (see Quirk and Greenbaum 1973: 96). This may be due to the fact that such uses are receding as the construction becomes more agentive over time (see Introduction, and 2.2.1).

Even more surprising is the following example, which uses a verb listed by Palmer (1988: 71) as one expressing inherent duration and therefore incompatible with the Progressive, *belong*:

(33) They sayd thre men ansuerd them with grete fere that the paleyce
and the ysle **was belongynge** unto the Kynge of Fryse

Caxton: *Blanchardyn and Eglantine*

Another Middle English example using a State verb is found in Visser (1973: 2011) dated c. 1475:

(34) He cosyn vnto the hy king of fraunce, By the which branche
honour **is hauing**.

The Romans of Partenay, 6266.

Denison (1993: 375–6) also includes two examples using *have* in the Progressive form:

(35) thou shalt **be hauynge** power on ten citees
you shall be having power in ten cities

a1425 (c1395) *Wbible (2)* Luke 19.17
(sim. *Wycl. Serm.* II 78.59)

(36) behold what gift will **be hauying**
Look what gift will (you) be having

a1500 *Partenay* 5528

It is clear that there can be no senses of durative action or agentivity arising from such senses, nor can there be in the meanings of any of the participles in (29)–(36). If agentivity in the present-day Progressive participle reflected earlier stages in the grammaticalisation process, then an explanation would be needed for the early appearance of such uses indicating situations of a more time-stable, inherent nature, and for the appearance of the progressive participle with certain stative verbs which normally do *not* take the Progressive today. It is necessary, therefore, to consider additional data in order to provide an alternative account of the development of the form.

2.5 Examples from Old English

What is obvious from much of the data so far is that there is a tendency for verbs of the (mostly) intransitive Activity class of Vendler (1967) to co-occur with the early descendants of the Progressive, and, moreover, that stative verbs were not excluded from the paradigm either. The absence of transitive Accomplishments and Achievements, verbs of inherently punctual lexical aspect, is clearly an indication of the characteristic functions of the forms which provided the sources for the present-day Progressive, and indeed, it is questionable whether, because of the less restricted paradigm of earlier uses, we are really looking at a Progressive aspect at all. In order to define more accurately the functional distribution of early sources, then, a survey of a number of Old English texts in the Helsinki Corpus was undertaken, by taking the *beon/wesan + V- end(e)* form as the object of the search. (Núñez-Pertejo (2004) has also provided a comprehensive summary of Old English functions; however, the distribution she shows is not as wide as the data from the present survey would indicate, and is not quantified to represent any indication of functional change over time.)

Because of the frequency of the *beon/wesan* + *V- ende* form across the Old English part of the Helsinki Corpus, only a selection of available texts was used. The texts selected for investigation were: *Alfred's Introduction to Laws*, *Leechdoms*, *The Anglo-Saxon Chronicle*, *Bede's Ecclesiastical History*, *King Alfred's Orosius*, *Byrhtferth's Manual*, *Ælfric's De Temporibus Anni*, *The Blickling Homilies*, *Ohthere and Wulfstan*, *The Old Testament*, *The West Saxon Gospels*, *The Paris Psalter*, *Beowulf*, and *Gregory the Great Dialogues*. Of the types which were not considered were adverbial uses of the participle with no copula (appositive uses), since such uses still exist in the same function today, and thus are not considered in the present study to be related to the source of the Progressive. In addition, the agent nouns were recorded by type rather than token, since in many texts there were multiple uses of a single token (e.g. *hælend* ('the Holy One', 'Christ'), while in others only one token of each type could be found for many examples (e.g. *Beowulf*). The distribution of types would therefore provide a better indication of the frequency of use as a factor of the productivity of the agent noun. The texts selected also included those which have not been associated with Latin translations in previous discussion (see below). The functions isolated are listed as follows:

(i) Neutral imperfectives (including iterative uses). These were examples of the copula + participle which could not be glossed with a Progressive in today's English, but which were not illustrative of generic, nomic or habitual uses either.
(ii) Adjectival uses.
(iii) Agent noun types.
(iv) 'True' Progressives: these could be glossed in the Progressive in present-day English. In present tense form, they could include future or irrealis uses.
(v) Generic, nomic or habitual uses, classified by their ability to be glossed in present-day English using a simple form of the verb.
(vi) Perfect progressives
(vii) Ingressives

The distribution of such uses is shown in Table 2.2.

Table 2.2 Distribution of various functions for the *be + V-ende* form in the Old English data sample from the Helsinki Corpus. Forms searched were *V-ende* and *V-end*. N = 237

***be + V-ende* (type)**	**Token number**	**Percentage**
(i) Neutral imperfectives	81.5	34.38
(ii) Adjectival uses	43.5	18.35
(iii) Agent noun types	43	18.14
(iv) Progressives	35	14.76
(v) Generic, habitual	29	12.23
(vi) Perfect progressives	3	1.2
(vii) Ingressives	2	0.8
TOTALS	237	99.86

2.5.1 Example types

The OED Online classes the main function of the *beon/wesan + V- end(e)* form in Old English as an imperfective; this is especially apparent because of its predominance in past tense rather than present tense environments (60% of Scheffer's (1975) OE poetry examples were in the past tense, and only 25% in the present, while only 19 (8%) of the Old English sample in the present study were in the present tense). It was noted by Comrie (1976: 72) that imperfective aspect is really only relevant in the past tense, since the present tense is naturally imperfective, as actions can never be reported as completed at the moment of speaking, while in the past, the perfective aspect is the default, as actions and events can be reported as complete at the moment of speaking; thus, there is a need to mark those which are not. Other accounts (e.g. Scheffer (1975: 133; 181); Núñez-Pertejo (2004: 67)) have discussed the imperfective functions of the *be* + present participle form, while at the same time, they do not give a great deal of consideration to the importance of such functions with respect to its later development. There are a large number of examples which describe durative actions in the past for which the use of the form is determined by virtue of the inherent aspectual meaning of the lexical verb, or by other contextual elements. Some of these examples could well be translated by the imperfective aspect in other languages today (modern French, for example, translates both the past habitual and the past progressive in one imperfective form, e.g.: *Chaque jour à cinq heures le poète écrivait une poème* – 'each day at five o'clock the poet was writing/wrote a poem', as noted by Comrie (1976: 34)). It is for this reason that the *be + V-ende* forms have been labelled neutral imperfectives; they express a dual imperfective role in the data surveyed which is neutral to the sub-aspectual tendencies of either habitual or continuous. In most of the examples, the published translations use the simple past tense to gloss the *beon/wesan + V-*

end(e) form, though clearly it has to be admitted that since English does not have a full paradigm of imperfective uses today, the simple past often fulfils the same function. Today, therefore, for such examples, imperfective aspect is restricted to a feature of the verbal semantics alone.

Many of the examples in Old English, as noted above, use Activity verbs, e.g. *fight, live, fly, flee* etc., which are naturally durative in their lexical semantics; however, they are not always glossed in published translations using the Progressive of today's English. For example:

(37) & hie þa ymb þa gatu **feohtende wæron** oþþæt hie þær inne fulgon,
'And they went on fighting around the gates until they forced their way in'

(850–950) *Two of the Saxon Chronicles Parallel*

Ed. Plummer, R 755.38.

The translation by Garmonsway (1967) leads one to believe that the meaning of the form in (37) could well express an iterative action, or at least one which carries the meaning of repetitive action of some kind. Forms such as *keep on V-ing* or *go on V-ing* may in today's English express a reinforcement of the senses of duration associated with the Progressive (see Heine 1993 for more details), as can be seen when they are compared with the Progressive: *she kept on smiling all the way through/ she was smiling all the way through* (the former suggests maintenance of a durative situation in the face of resistance, while the latter merely refers to a continuous situation). Fitzmaurice (1998) discusses at length the use of the Progressive in the *Anglo-Saxon Chronicles* and points out the frequent contrast it has with the preterite, in providing a backgrounding function in discourse. Such uses are similar to those discussed by Fleischman (1995) for modern French and Spanish imperfectives, and those discussed by Jespersen (1931) for the English Progressive, as noted in Chapter 1.

Another example from the *Anglo-Saxon Chronicles* is translated using a simple past form, its lexical verb supplying the semantics of duration even without the use of a progressive form:

(38) & þy ilcan geare ferde to Rome mid micelre weorþnesse, & þær **was xii monaþ wuniende**,
'And the same year he proceeded to Rome in great state, and remained there 12 months'

(850–950) *Two of the Saxon Chronicles Parallel*
Ed. Plummer, R. 855.4.

(38) shows a use of the Progressive in Old English which would be almost redundant today, and, as well as the lexical aspect of the verb expressing duration, it is reinforced by a durative adverbial (again the translation is by Garmonsway 1967). The same 'redundant' use with a durative verb and adverbial may be found in *Bede's Ecclesiastical History*:

(39) & þær ealle neaht **wæs restende**: & þa on morne gehælde witte aras & ut eode.
'and he rested there all night; and then in the morning he arose in his sound senses and went out'

(850–950) *Bede's Ecclesiastical History*
Ed. Miller, p. 272.

The translation (from the Early English Text Society – EETS) glosses the use of the imperfective form with a simple past tense; again, the lexical aspect of the verb is already durative and need not be marked as imperfective in present day English. The other verbs in the context, though, are marked as punctual by the simple tense, as they express perfective actions. The 'backgrounding' function of the imperfective aspect discussed by Fitzmaurice (1998) is clearly shown in (39).

An interesting example from the same text reveals a potential ambiguity with an agent nominal sense:

(40) þonne magon ge eac swylce þæs halgan hlafes **dælneomende beon,** swa he **dælneomende wæs.**
'then you may also be partakers of that holy bread, as he was'.

(850–950) *Bede's Ecclesiastical History*
Ed. Miller, R 5.112.12.

The forms are the same in each case, using the copula and the present *V-ende* form, and it is difficult to determine whether it really was an agent noun or a present participle since in the first example the agent noun (if it was one) has plural marking, making it formally identical in this case to a present participle. It is difficult to accept the second instance as an agent noun, in spite of the EETS translation, as the subject is singular and the *V-ende* form is plural, *dælneomende*, rather than *dælneomend*. Thus, the example could be glossed as 'then you may also partake/be partaking of that holy bread, as he partook/was partaking'. The action referred to is understood as habitual, rather than durative, and thus calls for a simple form of the verb in today's English.

The next most frequent use was for adjectival functions; some of these were pre-verbal, some were found as subject complements. One text that alone yielded a

count of 15 tokens was *The Old Testament*, in which the form was used to attribute generic characterising qualities to noun phrases in descriptions of the Creation:

(41) God cwæð eac swylce: Teon nu ða wæteru forð **swymmende** cynn cucu on life & **fleogende** cynn ofer eorðan under þære heofonan fæstnysse.
'And God also said: Let the waters bring forth swimming creatures that have life and creatures that may fly above the earth in the heaven's firmament.'

(950–1050) *The Old Testament*
Ed. Crawford, R 1.20

The adjectival function in (41) is determined by position, being followed by a NP (*cynn*); the translation is from a 1611 King James version of the Bible. The relative clause could be alternatively glossed as 'and flying creatures above the earth in the heaven's firmament'. In another example, from the *Byrhtferth's Manual,* the NP is ellipted, giving the appearance of an agent noun:

(42) On þam fiftan dæge,þæt ys on (\xi kl\), He gescop eall wyrmcynn & **creopende** & **fleogende** & **swymmende** & **slincgende** & þa myclan hwælas & þa lytlan sprottas & eall fiscкynn on myslicum & mænig fealdum hiwum.
'On the fifth day, that is on the 22nd March, He created all sorts of creeping things and flying things and swimming things and crawling things and the great whales and the little sprats, and all species of fish in varied and manifold forms.'

(1011) *Byrhtferth's Manual*
Ed. Crawford, R 82.15

However, it is quite possible that such examples are metonymic substitutions for whole noun phrases, e.g. *creopende cynn*, as illustrated in (41) and as indicated in the EETS gloss, i.e. that they have the meaning 'creeping ones', the NP referring to a generic species which has no specific semantic content and can be readily ellipted. The presence of such examples may anticipate some ambivalence between adjectival uses and agent nouns, though it is questionable whether they should be considered as functionally equivalent to agent nouns.

There were some instances found in the selected texts which were more easily glossed as a Progressive form in today's English and for that reason have been cat-

egorised as Progressives. Some instances have been cited by Scheffer (1975: 212) also as carrying Progressive meaning, most often associated with postural verbs:

(43) Lazarus þær **wæs** ana **sittende** mid Hælende, & mid his þegnum;
'Lazarus was then sitting alone with the Saviour and with his disciples'

(950–1050) *The Blickling Homilies*
Ed. Morris, R 41.

One or two instances of the progressive appear in counterfactual contexts:

(44) Mid ðy ic unc wende **inngongende bion**, þa somninga se min latteow gestod & butan eldenne **wæs** eft his gong **cerrende**
'When I supposed we should have gone in, then suddenly my guide halted and without delay retraced his steps'

(850–950) *Bede's Ecclesiastical History*
Ed. Miller, R 13.430.24.

Although the counterfactuality of the context is supplied by the use of *wende* ('supposed'), the EETS translation in present-day English of the present participle form as a modal perfect is interesting, as the modal was not necessary (or available) to contribute to the counterfactual meaning of the expression at the time. The first clause means literally 'when I supposed we were (us to be) going in' in which the counterfactuality is created by the use of the imperfective form, signalling incomplete and thus non-factual action.[10] If the perfect had been used without the modal, 'when I supposed we had gone in', there is ambiguity as to whether the action had taken place or not.

Some of the agent noun types have already been illustrated (see also (43) above, in which one of the frequent uses of *Hælend* is exemplified. It is also worth noting that of the 43 types, 13 were counted in *Beowulf*, a text which was not translated

10. Fleischman (1995) discusses the frequent association of irrealis mood with imperfective aspect marking in French and Spanish.

from Latin (Núñez-Pertejo (2004: 77).[11] An example of one that does not appear in any of the other texts surveyed is the following:

(45) þæt syðþan na ymb brontne ford **brimliðende** lade ne letton
'so that not afterwards about the surgy ford to ocean sailors have they the way hindered'

(950–1050) *Beowulf*
Ed. Dobbie, R 562.

Thorpe's (1889) translation attempts to maintain the word order of the original poem, so that (45) could be alternatively glossed as ' so that afterwards they have not hindered the way about the surging ford to ocean sailors'. It is not exactly clear why there are so many agent noun types in this one text; it could be simply that the absence of Latin original texts meant that the distribution of functions was less diversified than it would have been had there been a necessity to use the form as a translation device.

It is clear in (29) that the participle form was used just as freely to express generic, permanent states as to express durative actions. In (46), the habitual meaning of the form is possible in the fact that the *be* + *ende* form is co-referenced with a *do* pro-verb (see Ch. 3 for habitual uses of *do* at later times). It seems odd that the pro-verb does not copy the copula form (though at that time the copula was not yet an auxiliary), but it does point to the verbal status of the participle form, as mentioned by Denison (1993: 376), citing Traugott (1992).

(46) Gif we willaþ nu on Drihten gelyfan, & hine ongytan, þonne **beo we sittende** be þæm wege, swa se blinda dyde.
'If we will now believe on the Lord and know him, then do we sit by the way as the blind man did.'

(950–1050) *The Blickling Homilies*
Ed. Morris, R 147.

11. Much attention has been given in previous studies to the presence of Latin in the Old English text translations, some scholars believing that the participle form was constructed to translate certain forms in Latin which had no Old English corresponding form, such as deponent verbs and future participles (Scheffer 1975). However, Scheffer (1975: 199) is also adamant that the ancestor of the Progressive in Old English was not dependent on Latin and had a life of its own outside the translations of Latin texts. It would appear then, that its productivity was merely enhanced by the need to find alternative adjectival participles for such Latin forms in Old English.

Denison glosses the form with a Progressive;[12] however, the EETS translation uses the simple form. The example also uses the present tense, which appears in this text quite frequently. It is possible that the use in (46) is ambiguous between a Progressive and a habitual, since the subordinate clause could indicate either temporary or permanent duration. In other instances, there is an ambiguity between adjectival and habitual or nomic senses conveyed in the participle:

(47) Hæl us on eorþan we þe synt on lichomum **lifgende**
'Save us on earth, we who are living in the body'

(950–1050) *The Blickling Homilies*
Ed. Morris, R 275.

Other examples using *lifgende* sometimes are translated as 'alive' and there is clearly an overlap in meaning between the adjectival sense and the generic sense of a participle use here.

In very few examples, an ingressive use was apparent, with the meaning of a future-in-the-past:

(48) & hie late on geare to þam gecirdon þæt hie wiþ þone here **winnende wærun**
'and it was late in the year when they set about making war against the host'

Two of the Saxon Chronicles Parallel,
Ed. Plummer, R 867.5

The imperfective use here, 'were making war', is glossed as 'set about making war' by Garmonsway (1967) to translate the form in (48); it could possibly be alternatively glossed as 'were beginning to make war'. The same usage could apply in some cases today, for example, in the environment of certain adverbs, such as *now*, as illustrated in (6b). Other quite rare examples were found with meanings of perfect Progressives, though since at the time the perfect aspect had not extended to

12. The gloss: 'Then are we sitting by the way as the blind man did' does not necessitate a *be*-form as the pro-verb either, suggesting instead that the proverb simply reiterates the factuality of the antecedent, not the verbal characteristics.

combine with the Progressive, it is possible only to understand the past Progressive as a perfect:

(49) Lazarus, þe Crist awehte þy feorþan dæge þæs þe he on byrgenne **wæs ful wunigende**
'Lazarus, whom Christ raised on the fourth day after that he was abiding corrupt in the tomb'

(950–1050) *The Blickling Homilies*
Ed. Morris, R 153.

The EETS translation again seems to remain somewhat close to the original text; it could be suggested that a more idiomatic present-day translation might be 'Lazarus, whom Christ raised on the fourth day after he had been abiding corrupt in the tomb', using the past perfect Progressive form. For this reason such examples have been classed as perfect Progressives (in meaning, though not in form, as it was not available then).

The examples above, then, indicate quite a range of functions for what appears to be the predecessor to the present-day Progressive, most of them quite different from the functions that are found today. By far the highest proportion represent non-continuous examples, or 'redundant' imperfectives carrying duration as a feature of their lexical aspect, often accompanied by an adverbial of duration as well. Only one of the categories mentioned above is continued as the Progressive in present-day English (with the exception of a handful of lexicalised adjectival participles – see Brinton and Traugott 2005: 115). The patterns that such data seem to represent will be discussed further below.

2.5.2 Continuity of functions in Early Middle English

It has been argued in the literature (e.g. Bybee et al 1994) that the original Old English *be* + *V-ende* form died out in early Middle English, the participle being replaced by the verbal noun which bore the *-ing* (*-yng/-ynge*) suffix of present day Progressives. The origins of this form are in the gerund, which was a noun derived from a verb with the addition of a feminine suffix (*ing* replaced both *-ing* and *-ung* which were found in Old English, according to Núñez-Pertejo (2004: 124), who distinguishes between those having nominal properties and those having verbal properties, the verbal type being considered less frequent). Núñez-Pertejo, however, maintains that the present participle in Middle English experienced a change in its suffix from *V-ende* (or *V-ande* in northern dialects) to *V-ing/inge* (2004: 125), a change which began in the south and spread northwards, which meant that the two forms were now identical to some extent. This is essentially at

the basis of most of the 'merger' accounts, which are supported by adequate data indicating the merging of grammatical functions as well, both forms sharing association with verbs of durational activity. If the merger of the two forms, then, were to explain the continuation and reinforcement of the OE participle, it is necessary to consider some Middle English data in order to determine whether the functions outlined above were continued beyond Old English times.

The sample consisted of the following texts from the Middle English part of the Helsinki Corpus, which included at least one from each time period: *History of the Holy Rood Tree*, *Vices and Virtues*, *The Early South-English Legendary*, *The Earliest Complete English Prose Psalter*, Chaucer"s *A Treatise on the Astrolabe*, *The Brut or the Chronicles of England*, *Chaucer's General Prologue to the Canterbury Tales*, and Richard Rolle's *Psalter*. The forms searched were participles ending in *-ende*, *-ynd(e)/-ind(e)*, *-and(e)*, *-und(e)*, *-eng(e)* and *ing(e)/yng(e)*. Appositive functions and those functioning in adverbial adjuncts were discounted for the same reason that they were in the Old English data.

The types found are listed in the tables below.

Table 2.3a Proportions of functional categories determined for the use of the (*be* +) *V-ende/ing* form in the Middle English data surveyed

Category type	Token number	Percentage
Agent noun	11	2.5
Verbal nouns *(V-and)*	11	2.5
Neutral imperfectives	12	2.8
Adjectival functions	23	5.37
Non-finites (Progressives)	32	7.5
Non-finites (Imperfectives)	37	8.6
(Finite) Progressives	40	9.3
Verbal nouns (no copula)	260	60.7
Others	2	0.09
TOTAL	428	99.36

The data in Table 2.3a are clearly biased by the overwhelming number of verbal nouns, mostly suffixed by *-ing(e)/yng(e)*, which only later came to have an influence, according to most accounts, on the development of the Progressive. For comparative purposes, then, the distribution will be shown with the verbal noun category deleted, as in Table 2.3b.

Table 2.3b Proportions of functional categories determined for the use of the (*be* +) *V-ende/ing* form in the Middle English period, excluding *-ing(e)/yng(e)* verbal nouns

Category type	Token number	Percentage
Agent noun	11	6.5
Verbal nouns *(V-and)*	11	6.5
Neutral imperfectives	12	7.1
Adjectival functions	23	13.6
Non-finites (Progressives)	32	19
Non-finites (Imperfectives)	37	22
(Finite) Progressives	40	23.8
Others	2	1.2
TOTAL	168	99.7

As can be seen from a comparison with the Old English data (Table 2.2), there is a reduction in the number of agent nouns (the figure shown here represents tokens, not types), neutral imperfectives, and adjectival functions. The number of progressives that could be glossed as such in present-day English has increased relative to the neutral imperfectives (by almost 7% in Table 2.3a), of which only two examples of habitual functions were found, one using the *V-and* form, the other using the *V-ynge* form. It seems clear from the evidence of these data that non-continuous imperfectives were already disappearing at this stage. Of the Progressives, there were 11 tokens that used the *V-ing(e)/yng(e)* form, for example:

(50) thei seyn that the planete **is "fallyng** fro the ascendent."

(1350–1420) Chaucer, *A Treatise on the Astrolabe*, p. 671.C1.

There were also some verbal nouns in the *V-and* form:

(51) Oure werkis may men see; bot whi we doe thaim and whidere we thynk in **doand** thaim. anly god sees:

(1420–1500) Richard Rolle, *The Psalter*, p. 26.

None of the 260 verbal nouns in the *V-ing(e)/yng(e)* form were ambiguously Progressive, and there were none of the prepositional type *he is on hunting*, discussed as contributory to the present day Progressive by Bybee et al (1994), Jespersen (1949) and others. However, there were instances of both the *V-and* and the *V-ing(e)/yng(e)* forms co-occurring in the same texts, sometimes using the same verb stem:

(52) a. fram þe multitude of þe **wirchand** wickednes..

(1250–1350) *The Earliest Complete English Prose Psalter*,

p. 73

b. Man shal go forþ to his werke, and to his **wircheing** vn-to þe euenynge.

(ibid), p. 126.

In (52b) the function is nominal ('work'); however, in (52a) the function is one of the many 'non-finite' forms listed in Tables 2.3a-b; i.e. it is a reduced relative clause, in this case, containing a participle which, if expanded, would be equivalent to a general imperfective describing a habitual activity of the subject: 'from the multitude of those working wickedness', where the true meaning is not continuous, but generic: 'of those who work wickedness'. Brinton and Traugott (2005: 115) describe such uses as 'free adjuncts' – non-finites which do not have overt subjects, and suggest they are marginal between having verbal and adjectival functions. There were other examples of reduced relative clause types in later texts:

(53) I mene degrees **contenyng** 60 mynutes.

(1350–1420) Chaucer, *A Treatise on the Astrolabe*, p. 668.C2

The use of the participle in (53) would not expand to a relative clause describing a continuous activity in present-day English ('degrees which are containing 60 minutes'), since the measure of a degree is nomic, a timeless truth and an unchanging fact (*contain* is also a stative verb). Such functions therefore may be considered to be continuations of the Old English generic or habitual functions of the imperfective, restricted here to non-finite subordinate clauses, and thus indicating possible recessive tendencies. The fact that such uses are still possible without anomaly today ('I mean degrees containing 60 minutes', where the retrievable relative pronoun is co-referential to a generic head noun – 'degrees which are containing 60 minutes') is also interesting. If it is not a recessive generic imperfective, restricted to subordinate clauses, it may be that the Progressive is being used instead to express the subjective temporary duration of the speaker's epistemic attitude towards the proposition, i.e. the proposition refers to a recent discovery not yet proven to be a timeless fact. However, in a typical example such as *The box containing six eggs was placed on the table*, it is not evident that a recent discovery is being referred to; the only reason to use the participle may be simply to avoid the use of a finite form.

There were not many examples which could provide evidence of an intermediate form between the *V-and/ende* type and the *V-ing(e)/yng(e)* participle forms, though one example appeared in the complement of a verb of perception (listed under 'Others' in Table 2.4:

(54) And whan he rood, men myghte his brydel heere
Gynglen in a **whistlynge** wynd

(1350–1420) Chaucer's *General Prologue to the Canterbury Tales*, p. 26.C1.

The form *gynglen* above ('jingling'), might well be an intermediate form, as discussed in the literature, since the adjectival use of *whistlynge* does not repeat the same ellipsis of the final consonant, and it is not required for rhyming purposes. However, a more extensive study might investigate how frequent such forms were at the time.

The small sample of data illustrates that for the texts surveyed, there was a general reduction in the range of imperfective functions associated with the former Old English form, and that although many were continued, for example, adjectival functions in certain cases, there was a significant decrease in the percentage of agent nouns (from at least 18.14% of tokens to no more than 2.5%) relative to other functions, adjectival functions (18.35% compared with 5.37%), and neutral imperfective (34.38% in Old English compared with only 2.8% in the ME data). The ME data, though, are severely biased by the presence of a large number of verbal nouns. In spite of this bias, however, the percentage of Progressives in the ME sample using the *V-ing(e)/yng(e)* form would not be more than 2.5% (11 tokens), as against 60.7% of nominal uses of the verbal noun. From the data sampled, it would seem that the adoption of the *V-ing(e)/yng(e)* form by the continuing Progressive in ME should be no more than a phonological accident, with the likelihood of recessive imperfective functions now being restricted to non-finite subordinate clauses. However, the sample is small, and should not be taken as more than a generalisation of the distribution of functions at the time. It is frequently maintained (e.g. Brinton and Traugott (2005); Núñez-Pertejo (2004)) that the Progressive that we know today did not become significantly frequent until Early Modern English.

2.6 Discussion

Although the Old English data discussed above is only a small sample of the distribution of the *be* + *V-ende* form in the Helsinki Corpus, it nevertheless gives a rough picture of the various functions for which the form was used at the time. It can be seen in the Middle English sample that many of the Old English imperfective uses did not continue, leaving only the Progressive to emerge as a dominant representative of the paradigm. The major problems with attributing a grammaticalisation explanation to the two arguments discussed above, Locative and Reanalysis, are not their individual plausibility, but the fact that they have not been linked to provide a

unified account which embraces semantic continuity. Bybee et al (1994: 136) cannot, on the basis of Old English examples such as (29), attribute a theory of grammaticalisation to the development of the Progressive from Old English sources, instead selecting a different explanation, described here as the Locative argument, which would more likely follow the general patterns of grammaticalisation processes starting from a later period. Heine (1994a) presents a number of possibilities which can serve as crosslinguistic grammaticalisation sources for the progressive aspect, using a Niger-Congo language, Ewe, on which to model his hypotheses. Other historical accounts e.g.; Mustanoja (1960), Visser (1973), Mitchell (1976; 1985), Nickel (1966), Scheffer (1975), and Warner (1993) do not apply the principles of grammaticalisation to their accounts. Thus, in order to provide a grammaticalisation account, it seems that the central task is one of linking the two arguments (2.4.1–2.4.2) with an explanation adhering to such principles, and embracing the evidence of aspectual functions found in the data so far.

Notwithstanding the problem of semantic continuity, grammaticalisation does not discount the possibility of discontinuity of form, particularly if the analysis is regarded as onomasiological (tracing the differences in forms used to express a single, unchanging concept (Traugott, 1996[1997]: 3). If this is the case, then the continuity can be achieved semantically over a variable range of forms, and the formal and phonological changes which replaced the Old English *be + V-ende* by the present day *be + V-ing* can be permitted under such an analysis (see, e.g. Huffines, 1988 for present-day analogies). It is clear from the data in 2.5 above that some of the present day functions of the *be + V-ing* form could be identified in the *be + V-ende* form in Old English. But it remains to demonstrate how earlier, stative verbs associated with the *V-ende* form can be continued and can develop into the more dynamic, *V-ing* form of today. A continuity of form could have meant that the replacement of the *-ende* suffix by *-ing* may only have been a matter of phonological confusion, or even orthographical confusion, but at the same time there must have also been some functional coalescence in order for the gerund and the participle to take on the same morphology, and this would ensure the semantic continuity usually associated with grammaticalisation processes. It is therefore questioned whether the two accounts can actually be unified under a general explanation of grammaticalisation, and if not, how to link the various paths of development and propose a route of development which can demonstrate that semantic continuity can be achieved without reference to a grammaticalisation path.

It must also be remembered that grammaticalisation begins with essentially lexical source material, using open-class categories, becoming reanalysed to more closed class ones (Traugott 2003), or that a lexical item undergoes a series of changes on the way to becoming increasingly grammatical (Hopper and Traugott 1993[2003]: 2). The evidence so far points to earlier, less agentive functions for

the construction in many Old and Middle English uses, the form often associated with adjectival functions, stative verbs or referring to generic states and habitual activities, and demonstrating generally less transitivity than in present-day uses which seem to be constrained to highly agentive, non-time-stable and dynamic situations (2.1.1). There could, therefore, be suggestions of an increase in the sense of agentivity associated with the construction over time, especially given Strang's (1982) indications of predominantly human or animate subjects in the 18th century (2.4.1). But agentivity is related to more lexical, prototypically-verb-like meanings, and thus it may be difficult to prove that grammaticalisation is at work if the construction as a whole is becoming more verb-like. Because of this, an alternative explanation is needed to explain the development of aspect, which is a grammatical category.

2.6.1 The noun-verb continuum

Givón (1979: 320–322) discusses a time-stability continuum of nouns-adjectives-verbs, with nouns describing the most time-stable entities and verbs describing actions and events. The least time-stable situations are lexicalized as verbs, suggesting rapid changes from one state to the next (1979: 321–322). If non-time-stability is the identification of the most verb-like characteristics, then, according to our earlier definitions which isolate changes of state as a feature of agentivity, agentivity of some kind should be involved in the developments concerned. A continuum of noun-adjective-verb, then, with its accompanying characteristics of degrees of time stability, serves also to describe a continuum of increasing agentivity, and such a continuum will therefore be proposed to explain the development of the Progressive over time.

Haspelmath (1994) refers to such a continuum in discussing the possibility of grammaticalisation as a cause for the development of passive participles across languages. He claims, though, that historical-comparative evidence does not lead to an explanation of grammaticalisation as a cause for the development of participles, and that participles are not the result of a free lexical item being grammaticalized into a participle-forming affix. Rather, they express adjectival qualities, and are formed with productive adjectival affixes, so that with regular use they become participles (1994: 167). This process, he concludes, is not grammaticalisation, but analogy. He also claims that English participles and adjectives can be considered as occupying intermediate positions along a scale or a continuous cline, as illustrated in the following manner:

(55)

<--->

noun adjective participle verb

(Haspelmath 1994: 171)

Furthermore, this scale is not regarded as representing a grammaticalisation cline, as diachronic changes may take place in both directions, and grammaticalisation is represented by unidirectional developments (1994: 172).[13]

Given the evidence presented above regarding the development of the English Progressive, it is proposed in the present study that progressive participles in English arose in the same manner described in (55). An agent noun, as illustrated in (26), expresses an attribute of the subject it complements; it also suggests time-stable characteristics of a generic nature and indicates the habitual activities of the subject. The same time-stable characteristics are found in (29), describing the habitual activities of the 'creeping' creatures, and also in (30), in which the participle refers to the unchanging geographical facts about the course of a river. Such uses express lack of change over time, which is, in Givón's (1979) terms, a feature most characteristic of nominal categories. It is thus suggested that the agent-noun served as the original source for reanalysis.

Exactly when such a reanalysis occurred, though, is difficult to estimate from the data so far. The Old English texts surveyed reveal a total of 43 types of agent nouns found, with an implication that at least 43 tokens of such forms may similarly be found. At the same time, there are 43.5 adjectival functions of the *be + V-ende* in Old English, but the number of neutral imperfectives (81.5) indicates that an emerging aspectual function was already well established at the time, regardless of where it came from. It is possible from this picture that the Old English period could be represented as about on the half-way point on the continuum illustrated in (55), with a declining use of agent nouns and adjectives at the same time as the participle was increasing and with the form gradually moving towards the verbal end, as illustrated by examples such as (43) and (46).

It is also shown that the first appearances of the *be + V-ende* form were often associated with intransitive verbs (see also Traugott (1992), as noted in 2.4.2). In such cases, the agent noun is more easily interpreted adjectivally than with transitives, and especially with an inanimate subject as in (30); for example: *seo is irnende*, when referring to the path of a river, is more likely to be ambiguous between an adjectival expression 'that is running' and a participle than an equational expres-

13. Similar approaches to the Haspelmath (1994) continuum are found in Anderson (1991; 1997).

sion with an agent noun complement 'that is a runner'.[14] Although not necessarily forming the majority of cases, intransitive constructions may have provided the most optimal and unmarked situations for the transition of the participle from an agent noun. Haspelmath (1994: 172) also notes that the agent noun expresses more time stability than a participle; e.g., *a writer* implies a permanent activity, while *an actor writing his memoirs* using a participle indicates a period of temporary activity. For this reason it is justifiable to suggest that the agent noun use of the *be + V-ende* form was prior to the use with intransitives, and that this form was represented in the noun end of Haspelmath's (1994) noun-verb continuum.

The question remains of how the meanings of durative actions were derived from a form with earlier meanings expressing quite the opposite meaning – permanent states and generic qualities of the subject. It was noted above 2.5.2, that the earliest verbs to collocate with the Old English *be + V-ende* form were those expressing movement or duration, and that they were typically intransitive; thus, the verbs most likely to express lexical senses of duration were already coupled with the grammatical form from its early stages. Scheffer (1975: 168) lists the types of verbs appearing in Gregory's Dialogues as expressing movement; e.g. *arisan* 'arise'; *cuman* 'come'; *faran* 'go'; and *oferstigan* 'climb over'; as expressing a physical state; e.g., *hangian* 'hang'; *sittan* 'sit' and *wunian* 'live'; verbs expressing a psychological condition; e.g., *behealdan* 'behold'; *smeagan* 'reflect'; and *wundrian* 'wonder'; and verbs expressing mutation; e.g., *growan* and *weaxan* 'grow'; *swellan* 'swell'. Others not listed amongst the first three categories included verbs such as *drincan* 'drink'; *etan* 'eat'; and *scippan* 'shape, make', and verbs such as *feohtan*, 'fight' *restan*, 'rest' *lifian/libban*, 'live', *weaxan*, 'grow', and *fleon* 'flee' are common in the data surveyed in 2.5.1. At first glance, this looks like quite a miscellany of verb categories. But on closer inspection, it appears that the majority of such verbs are of the Activity class of Vendler (1967); that is, they are open-ended, do not express completion or punctuality in their inherent semantics and all contain senses of duration without the addition of grammatical aspectual marking to express such senses. Mitchell (1985: 276) also notes a predominance of such inherently durative verbs in Nickel's (1966) data. With an agent noun marking the agent of an Activity verb, the inherent verbal semantics in the derived nominal form resulted in the meaning of a habitual actor who performed the named activity over an indefinite time period. Vendler (1967: 109) referred to occupations, habits, dispositions, and abilities, encoded in the agent noun, as States. The States of actors who perform habitual activities; e.g. smokers, painters, and dogcatchers, were referred to as specific States,

14. The ambiguity is further compounded by the fact that predicate nominals such as agent nouns were rarely marked by indefinite articles in Old English (Mustanoja 1960: 259–260), and were even frequently omitted in later Middle English (1960: 269–270).

since they could at any time be still called smokers, painters, and dogcatchers even while not performing an activity related to the action of smoking, painting and catching dogs. However, the states of rulers, servants, and educators, whose activities of ruling, serving and educating could not be so easily defined at any specific moment were referred to as generic States. The latter category appears more timestable than the former, expressing more attributive qualities regarding the subject. These distinctions reflect the nature of the original verb from which the agent noun was derived.

Many of the agent nouns in Old English were of the latter type; of 16 examples listed by Quirk & Wrenn (1994: 113) the following 12 may be classed as of Vendler's generic type: *eardiend* 'dweller'; *hælend* 'saviour'; *healdend* 'chief'; *nergend* 'saviour' *rædend* 'ruler'; *scyppend* 'creator'; *wrecend* 'avenger'; *agend* 'owner'; *buend* 'dweller'; *hæbbend* 'owner'; *folc-, foldagend* 'ruler of people, of land' and *woruldbuend* 'world-dweller'. Many of these examples were found in the data surveyed. Similar forms, such as *creopende*, *fleogende*, *swymmende*, and *slincgende* ('creepers', 'flyers', 'swimmers' and 'slinkers'), as illustrated in (42), appear to be used in parallel to adjectives in (41): *swymmende cynn* ('swimming kinds') and *fleogende cynn* ('flying kinds'); therefore, it would be difficult to determine whether the form was simply a pre-nominal adjective with the NP ellipted, or whether it expressed nominal qualities, particularly when appearing in the plural form. Such adjectival/nominal parallels are found in another example from the *Anglo-Saxon Chronicle*: *landsittende men* and *landsittende* (both translated as 'landholders'), as in the following:

(56) a. hwæt oððe hu mycel ælc mann hæfde þe **landsittende wæs** innan Englalande. on lande.
'and what or how much each man who was a landowner here in England had in land'

(1050–1150) *Two of the Saxon Chronicles Parallel* Ed. Plummer, R 1085.30

b. & þær him comon to his witan. And ealle þa **landsittende** men. þe ahtes wæron ofer eall Engleland.
'and there he was met by his council and all the landholders who were of any account throughout England'

(*ibid*. R 1085.44)

In (56a), though, it is likely that the function is adjectival, in spite of the translation by Garmonsway (1967), as the *-ende* suffix cannot be plural in this context. This interchangeability seems to allow for a gradual shift from agent noun to adjective,

since it could be inferred that the activity performed by the agent nominal was not sporadic; as a generic characteristic, it was also always possible as an on-going situation extending over the speaker's reference time. The stem *landsittend*, though, is not apparently continued in a verbal form in Old English: for other examples the reanalysis is easier to project, for example, in *buend* ('dweller'). Thus the following developments might be predicted to have occurred:

(57) a. Nominal: He is [dweller] ('dweller' is a generic agent noun)

b. Adjective: He is [dwelling] (*dwelling* is a denominal generic adjective = 'he dwelling/ is a dwelling one') therefore,

c. Participle: He [is dwelling] now (*dwelling* is a participle expressing an on-going situation extending over speaker reference time).

since it could be assumed that at any moment when an utterance such as (57b) is made, (57c) is entailed, and thus, the pragmatic relations between the functions slide into one another, in appropriate contexts.[15]

The ambivalence between agent nominal and adjectival functions for many *V-ende* forms in Old English could mean that, whenever a generic characteristic was expressed as subject complement, it could readily be reanalysed to possess verbal qualities of a more dynamic nature especially in the presence of particular adverbials of temporary duration. In this way a generic situation, which is time-general, entails the inclusion of a corresponding time-specific situation contained within it, non-time-stable and relating to the moment of speaking. Thus, durativity might have come to be associated with the denominal adjective in a restricted group of verbs, those derived from agent nominals expressing a generic or characterising state, and later generalized to include those specific States and Activities which were not generic. If this is the case, it explains why the *be+V-ende* form in Old English frequently had functions which could be described as generic predicates; e.g. in (29) *Sume syndan creopende* 'some creep/are creepers', functions which would not be found in the present-day use of the Progressive. The existence of a generic or permanent state entails the temporary durativity of the state over any given point of reference, though the existence of a temporary durative state at a reference point only conversationally implies that the state is not of a permanent

15. It should also be remembered that predicate agent nominals in the singular, functioning as non-specific subject complements, would not have been marked by an indefinite article at the time (as noted, e.g., in Hopper 1987), easily allowing for the reanalysis from the predicate nominal to an adjectival or participial function to take place, especially in the environment of generic States thus described.

nature. The shift from permanent states to temporary states may also explain why verbs such as *belong, believe,* and *have*, and verbs describing habitual activities, which do not usually appear in the Progressive in present-day English, were occasionally still found in the Progressive in Middle English (see (32)–(36)). The stativity of the verb would not have been at issue if the earliest verbs used with inferences of durative aspect expressed generic states.

The pattern outlined in (57) also suggests that Nickel's (1966) hypothesis of a 'blend' of three syntactic types can better be accounted for if each of the types were regarded as ordered in development by means of inferences, the participle form being the last stage of development and used with specific temporal reference. Diachronic ordering often results in transition stages where two or more forms may co-occur simultaneously, indicating a change in progress, and the data suggest that this was the case in Old English. The fact that a pragmatic relation can be found to exist between (57a-c) provides additional evidence for this explanation. Thus, if there was an overlap in function between the use of the Progressive to express permanent states and its developing use in expressing temporary states, the need to disambiguate such functions adverbially would be much greater. Nehls (1988: 185), who places the merger of the locative, prepositional type with the older, participial type at a much later period than other accounts (Early Modern English), suggests that the mutual substitutability of prepositional and non-prepositional types (*He was a writing of a letter* and *He was writing a letter*) in the seventeenth century correlated with the disappearance of the Progressive with stative verbs. Bearing in mind that Nehls also finds that the prepositional type never occurred with stative verbs, there must have been a functional motivation for the prepositional form to form part of the paradigm: possibly to distinguish the meanings of permanent duration from the developing meanings of temporary duration when both were being used contemporaneously and when there was no contextual, adverbial means of doing so. Many Old English forms co-occurred with an adverbial means of distinguishing permanent durativity from temporary durativity: 6 of Denison's 32 (1993) examples of OE (non-MV) progressives co-occur with an adverb of frequency (e.g. *symle* 'continually' in (28)); those without any adverbial modification are often interpreted as expressing permanent duration, as in (29) and (30) and those with duration adverbials, as in (38–9) are already beginning to indicate developing Progressive meanings. Of the examples in the Old English data in 2.5, the following adverbs of duration or frequency were found: *leng* ('long'), *simle/symle/simbel* ('always'), *xxii monaþ* (12 months), *ealle neaht* ('all night'), *mare and mare* ('more and more'), *gelomlice* ('often'), *longsumlice* ('at length'), *giet* ('yet, still'), *nugiet* ('even yet'), *unablinnendlice* ('always'), *þreo winter* ('3 winters'), *xxx wintra* ('30 years'), *longe* ('a long time'), *swa* ('often'), *xxv wintra* ('25 winters'), *oftrædlice* ('often'), *ealne þone dæg* ('all day'), *oþ* ('until'), *þagiet* ('still'), *eft* ('again'),

xl wintra ('40 years'), *æfre* ('ever'), *ne... næfre* ('never'), *a/æ* ('always, ever'), *nu* + present tense ('now'), *on þa ilcan tid* ('at the same time'), *ealne weg* ('all the way'), *dæges and nihtes* ('day and night'), *festlice* ('unceasingly'), *fæstlice* (determinedly'). Fitzmaurice (1998: 37) also notes the frequent collocation of what she describes as 'nascent' aspectual meanings with adverbials expressing duration in the *Anglo-Saxon Chronicles*. The prepositional form then may have had a contributory role in the development of temporary durative senses which were already becoming associated with the form, and rather than being a source of such senses.

The tendencies shown in the Old English data seem to suggest that the more generic, time-stable functions of the *be + V-ende* form were already in decline by the time of Old English and were reanalysing as incipient Progressives then. As the form developed from noun to denominal adjective, the adjective form conveyed more time-stable characteristics, being closer to the noun end of the continuum illustrated in (55). These included physical and psychological States with experiencer subjects rather than agents. Once entailed durative senses were established in such environments, the form would spread to Activity verbs having a lexical sense of durativity, hence acquiring the process senses familiar with the Progressive today, and losing some of the earlier characteristics of time-stability. The majority of the verb classes in Old English, as noted above, were Activities, which are low in agentive properties as they do not refer to a change of state but only to the maintenance of a process. In the OE data surveyed, there were no Accomplishments, and only one or two rare Achievement types were found. One of these occurs in the later part of the *Anglo-Saxon Chronicle* (1050–1150):

(58) & sumne æfen wæs gesæwen swilce se beam ongeanweardes wið þes steorran ward **fyrcliende wære**.
'and one evening it seemed as if the beam were flashing in the opposite direction towards the star'

(1050–1150) *Two of the Saxon Chronicles Parellel*
Ed. Plummer, R 1106.15.

The use of the *be + V-ende* form with a punctual Achievement verb (*fryclian* 'flash') is incongruous with an aspectual form expressing durativity as the act of flashing can never be durative; thus it can only be understood as iterative, as discussed in 2.3. The rare appearance of such types is an indication that the present-day tendency for the form to co-occur with more dynamic verb classes was only incipient in Old English times.

In summary of the survey of data, it would seem that the presence of such a variety of uses in Old English indicates that the form in question had a very general function to mark imperfective aspect. According to Comrie (1976), imperfective

aspect is most typically represented crosslinguistically as covering both classes of habitual and continuous, with continuous further divided into Progressive and non-Progressive.[16] From the data above, there is clearly a general category of imperfectivity that need not only be restricted to habituals and continuous sub-categories, but is marked generally in the past tense of verbs which are not inherently aspectually perfective and would not normally take any of the perfective prefixes mentioned in 2.5.2 as never co-occurring with the Old English *be* + *V-ende* form. The grammaticalisation of imperfectivity, then, selects those situations which are open-ended and non-telic, and is most relevant to lexical aspectual classes possessing similar properties such as unbounded States and Activities, those classes most often found in the data in Old English. Bearing this in mind, the presence of both habitual and continuous uses for the *be* + *V-ende* form in Old English clearly point to an already established imperfective, a fully grammaticalised category operating on the lexical imperfectivity of the verbs with which it combined, but which, from all appearances, continued on in only one sub-category and that was the developing Progressive. In other words, what we are looking at today is a surviving relic of an old imperfective system, not the early stages of a new one.[17] The survival of the Progressive imperfective into Middle English is clearly shown in the data in Table 2.3a, in which other imperfective uses are seen to become gradually less frequent. As it developed through Middle and Early Modern English, the former senses of temporariness associated with particular adverbs of duration permitted the form to increase its paradigm to include more dynamic verb classes. On the one hand, it could be argued that such generalisation is typical of grammaticalisation, and many accounts do (e.g. Brinton and Traugott 2005); however, the bigger picture, taking into account the uses in Old English, would seem to suggest that if continuity from Old English sources is to be proposed, then there is a reduction in the number of functions represented (consisting in early stages mainly of habitual +

16. Bybee et al (1994: 127) refer to Comrie's distinction of non-Progressive continuous as applying only to stative verbs; however, they find no instances in all their data of any language that could have such a category.

17. Of course, if it may be demonstrated that in recent years there has been an expansion of functions for the present-day Progressive again to include, for example, habitual situations, then there is a case for reversion back to a general imperfective, as discussed in many of the examples illustrated in Bybee et al (1994). Such a situation would not be in conflict with a continuum-reanalysis model of development as it would show a tendency to expand backwards to more time-stable contexts, and continua are bidirectional phenomena. It is not possible to generalise, though, from a number of crosslinguistic examples to the situation in one language such as English: the narrowing or expansion of particular grammatical functions is inherently bound up with the emergence or recession of functional opposites, and as Bybee (1994) points out, functional asymmetry is a means of reducing redundancy in grammatical category marking.

Progressive + neutral imperfectives) to just one representative member (Progressives). Such narrowing of functions is shown in Table 2.3a and 2.3b and is not typical of grammaticalisation.[18]

It is noteworthy that Visser (1973: 1992 and 1935) does not find many verbs of the kind he labels 'terminative verbs' in Old English, those which would be more accurately described as Achievements (except for *carry out*), according to Vendler's (1967) categories. He includes examples such as *reach, fulfil, carry out, recognize, stop, fall, arrive, burst, start,* and *begin*. Some of these he claims do not become common until around 1711. The Helsinki Corpus lists only 3 examples in the period from 1420–1710 of what may be classed as Achievements in Vendler's categorisation, and these all occur in a single text: *Burnet's History of My Own Time (I)* (1640–1710). They are *attempt*, *enter upon*, and *die*. Such verbs are not typical of those most commonly appearing in the Progressive either in the above data, Scheffer's (1975) survey, or in Traugott (1992). If the Progressive aspect first began to develop out of denominal adjectives, and then spread to include Activity verbs, which do not express punctual actions or changes of state, one would expect that Achievements as being least durative in their lexical semantics would represent the final stage of generalisation. However, as we have seen, there are isolated examples in Old English, and, as noted in 2.3, they are not always associated with agentivity. The question remains, then, how Accomplishment verbs became part of the aspectual paradigm, since they express both duration and change (in telicity) (Brinton 1988: 54). To answer this, it is necessary to investigate the appearance of 'middle-voice Progressives'.

18. It should be borne in mind that the word-length of the selected texts of Old English (116,170) and Middle English (59,170) was not equivalent in either case, and the text selection was random. The percentages in the tables, though, illustrate the *relative* recession of one functional category compared with others for the same length texts.

2.6.2 'Middle-voice progressives'

If the above analysis is correct, path of development of the Progressive participle may be hypothesized in the following manner:

Table 2.4 Hypothesized route of development for the Progressive participle along the noun-verb continuum of Haspelmath (1994)

Grammatical form	**Noun**	**Adjective**		**Participle**		**Verb**
Characteristics	Time-stability		>	Agentivity	>	Change over time
Aspectual development				General imperfective	>	Restricted imperfective
Sub-aspectual development				Habitual and continuous	>	Continuous (Progressive)

Thus, in Table 2.4 it can be seen that the participle does not appear to be grammaticalizing – if anything it might be lexicalizing as it acquires more verb-like features of agentivity – and a shift from one lexical form to another is not indicative of the processes of grammaticalisation. The differences between the Participle stage and the Verb stage are not obvious in present-day uses, but it may be predicted that the cliticization of the copula, with frequent use, could lead to eventual loss and the participle assuming the functions of a full verb, something already observable in the *going to* futures of some creoles (Mufwene 1996). The present stage of the Progressive at least indicates that the participle form has been reanalyzed as part of a verb complex with a more agentive relationship with the subject than formerly; this is shown by the fact that it is moving from a relatively inactive to an active participle as it spreads to include an increasing range of highly agentive verbal environments in its paradigm. Strang (1982: 429) claims that the rules of the construction were established in the seventeenth century, and that prior to 1600 use of the Progressive was unsystematic. She also indicates that the construction began to generalise to a greater frequency of use from 1600–1700. It could be the case that the greater frequency of use was partially attributable to an increase in the range of enviroments around this period. The shift in aspectual functions to a more restricted use of imperfectivity in present-day English is also shown as accompanying the formal reanalysis.

This type of spreading generalisation is typical of grammaticalisation also, but in grammaticalisation it is accompanied by a bleaching of semantic content. In the case of the Progressive, the participle interacts with the lexical aspect of the verb, gradually acquiring instead more semantic features typical of verbs such as

agentivity as it generalizes to include Accomplishment and Achievement verbs in its paradigm. Thus there is no semantic bleaching in the participle, but rather a semantic enrichment. At the same time, the copula *be* is reanalysing its status, from that of a full verb in Old English, with an attributive complement, to an auxiliary with a main verb complement, and, in Present-Day English, becoming reduced morphologically to an enclitic. This patterning would appear to parallel classic cases of the grammaticalisation of auxiliaries (see, e.g. Heine 1993), if it were not for the fact that in the end result the lexicality of the construction has shifted syntagmatically from the copula as main verb to the participle, now reanalysed as the lexical verb in the construction. Table 2.4 could, therefore, be modified to indicate the progress of the copula, illustrated below:

(59) V + **N** > V + **Adj** > V + **Part**. > Aux + **V** >?Ø + **V**

and showing the decrease in full-verb status of the copula as concomitent with the reanalysis of the original nominal complement as a verb. But the aspectual inferences are ultimately related to a lexical item in the end result, the reanalysed main verb and its progressive-marking suffix. On the one hand this reanalysis involves a less lexical element, the participle, coming to play a more salient verbal role, while at the same time, the copula loses in semantic strength and in phonological structure as well as it grammaticalises towards auxiliary status. Thus, there is a two-way interaction taking place, with a rightward-oriented shift of syntagmatic lexical 'weight'.[19] The same process could well describe the development of the perfect aspect in English.

As the participle acquires agentivity as part of its semantic features, this also means changes in the understanding of the subject participant as it becomes the agent of the clause. Such changes might have been evident in the appearance during the Middle English period of what will be referred to here as the 'middle voice Progressive' (MV-Progressive) of the type often cited in the example: *The house is building*. The fact that such forms were acceptable until the eighteenth century (as it appears from Scheffer's (1975) data) is an indication that the construction must have had a different meaning from what it has today, and that the subject of such expressions was formerly not always the agent (or Actor) but could equally likely be the patient (or Undergoer – to use Van Valin's (1993) terms). Denison's claims

19. The development of the Progressive in English should also take into consideration the relationship between the Progressive and the *be going to* future form (itself a Progressive type), as pointed out by Elizabeth Traugott (p.c.). If the grammaticalisation of the *be going to* future relies, as grammaticalisation processes normally do, on the initial presence of a lexical source construction, then it follows that such a source will be verbal rather than a less lexical, participle source. The lexical shift described is thus in accordance with such a possibility, and further research might reveal some interesting findings.

(1993: 408) that both the verbal noun and the present participle were neutral to voice is in accord with this suggestion.

The reason for calling such forms 'middle voice Progressives' is that they refer to processes in which the agent and the patient refer to the same entity. As discussed above (2.2), prototypical agentive situations involve a human agent, due to the anthropocentric nature of expressing causality. Kemmer (1993: 144–145) also refers to the element of human causality in the expression of agency, and maintains that when no identifiable cause is available or when the cause is not salient, the chief nominal participant selected is the entity undergoing the change, so that "the event is treated as though it emanates from the Patient". Some languages also use middle voice to de-emphasize an external cause (1993: 147), and this may have been one of the factors motivating the appearance of MV-Progressives. Some examples given by Visser (1973: 2012) include:

(60) while the arcke was preparing...

(1557) *Bible* (Geneva) 1 Peter, 3, 20)

(61) There was talking of a monasterie that was erecting in the honour of him

(1566) *Pasquine in a Traunce*, fol. 17 (Fitzedw.Hall)

(62) like the sparklings of the cup when 'tis filling

(1620) Owen Feltham, *Resolves, Divine, Moral and Political*, 463 b

(63) If your throat were cutting, I'd not come at you.

(1623) Webster, *Duchess of Malfi V*, iv, 20

Also noteable in Visser (1973: 2003) are Progressive forms in which the participle is followed by the genitive phrase with an oblique object. (64) and (65) are examples which do not use a MV-Progressive:

(64) I am a young beginner and am building Of a new shop.

1610 Ben Johnson, *Alchemist* I, i, p. 14

(65) ... to see Greenwich House, and the yacht Castle is building of.

1666 Pepys. *Diary*, Febr. 8th.

Given what has been discussed above regarding the lack of agentivity in earlier uses of the Progressive participle, there is no reason why a patient or undergoer should not appear as subject of a Progressive. What is curious about MV-Progres-

sives, however, is that they normally involve transitive verbs used intransitively.[20] Transitive progressives were found in Old English (see, for example (27)), but were apparently not as frequent as intransitives. The use of the genitive object occurs with certain verbs in Old English and is continued in Middle English genitive oblique phrases with the preposition *of*. According to Mustanoja (1960: 74) the regular use of the preposition *of* to replace the Old English genitive case did not become established before the 12th century.[21] Visser (1973: 2002) dates the first appearance of genitive oblique phrases used with the Progressive to c1380:

(66) ... thanne thei ben not scorninge of God but worshipyng.

(c1380) Wyclif, *Sermon*

The earliest date given by Visser, then, follows well after the *of*-genitive became established, and thus it could be assumed that this form replaced the Old English genitive case objects in Progressive constructions.

What is noticeable about Visser's examples of transitive Progressives is that many of them described Activities such as eating, drinking, singing, searching, turning, learning, and so on. These may be either transitive or intransitive. Transitive examples include (1973: 2003):

(67) Thingis that makith the body lene... (are) Etyng of salt metes,
drynkyng of oold wyn

c1450 *Prose Versions Secreta Secr.*
(ed. Steele) 30, 25.

(68) There was nobody at home but I, and I was turning of the spit.

c1592 Rob. Greene, Orlando Furioso III, i

From 1600 onwards, though, there appears to be a marked increase in the use of Accomplishment verbs, which are always transitive. For example (ibid):

(69) Why, I was writing of my epitaph.

1607 Shakespeare, *Timon V*, i, 188

20. Another possible explanation for the presence of MV-progressives could be related to changes in the old OV word order in English; this syntactic explanation has been used to discuss the reanalysis of *have to* + infinitive (Fischer 1997a), but if applied to the present argument would require an analysis that is beyond the scope of the present work.

21. There were no examples in the data examined in 2.5 that contained *of*-genitive objects that could not still be in use today.

(70) That your old King Shaddai is raising of an army to come against you.

1666 Bunyan, *The Holy War*, 214

Of Visser's examples of the Progressive used with a genitive object from 1420 to 1600 only 7 out of 37, or approximately 19%, use Accomplishment verbs. However, of those occurring from 1600–1710, 15 out of 25, or approximately 60%, co-occur with an Accomplishment verb. Amongst Denison's (1993: 372–6) examples (of all transitives) only 5 out of 43 occurring 1420–1600 are Accomplishments, but there are insufficient examples provided to demonstrate any significant statistics for the post-1600 period. In the Helsinki Corpus, 3 out of 40 examples of the Progressive appearing between 1420 and 1600 are transitive Accomplishments, while 18 out of 109 Progressive forms appearing between 1600 and 1710 are transitive Accomplishments, a rise of 9%. 3 of the 18 appear with a genitive object, while there are no genitive objects in the 1420–1600 part of the Corpus. This data indicates that there may have been some increase in the use of the Progressive with Accomplishments at around 1600, and that the Progressive form was expanding its range of uses. The figures are summarised in Table 2.5:

Table 2.5 Percentages of Accomplishment verbs occurring in the Progressive in three sources from Late Middle English to Early Modern English

Source	1420–1600	1600–1710
Denison 1993	12	(Insufficient data)
Visser 1973 (genitive objects only)	22	60
Helsinki Corpus	7.5	16.5

At the same time, Visser (1973: 2011) notes that the use of the MV-Progressive increases during the period 1500–1699.[22] While the MV-Progressive may appear with Activity verbs, for example:

(71) ... When such affairs as these were managing;

1610 Ben Johnson, *Alchemist* IV, iii.

a total count of 51 of the 73 (approximately 70%) MV-Progressives listed by Visser (1973: 1878) as occurring during this period are with Accomplishment verbs, most of these being verbs of creation or destruction; for example:

(72) The masquing suits are fashioning.

1607 Cyril Tourneur, *The Revener's Tragedy V*, ii

22. The MV-Progressive is also found in Visser in the 18th and 19th centuries.

(73) ... during the time that supper was preparing.

1566 William Painter, *The Palace of Pleasure 2*, 498

(74) Whilst Troy was sacking...

1693 Dryden, *The Satires, Notes 198*.

Denison also cites Mossé's (1938) observation that the verbs particularly associated with the use of the MV-Progressive belonged to one small group with the meanings 'make', 'do', 'build', 'prepare', and 'cook' (11 out of 19 of Denison's listed 'passival' Progressives are Accomplishment verbs). Furthermore, the *OED* states that verbs denoting a process, e.g. *bake*, *build*, *cook*, *make* and *prepare* were very commonly used to make passive progressives in the 17th and 18th centuries (Núñez-Pertejo (2004: 165) also makes this observation). These meanings are all basically meanings of creation, and as seen in (69), converse meanings of destruction were included as well. Such meanings are expressed as prototypical Accomplishments.

Croft (1994: 96–7) notes that many languages express a difference in the degree to which a patient participant is affected, so that one not normally or completely affected by the action may be assigned to an oblique case role; e.g. *The man shot the target* vs. *The man shot at the target.* It is hypothesized in the present study that the patients of Progressive expressions are less affected than the patient participants in perfective expressions, and that this may have been the reason for their appearance in oblique genitive phrases in their past history. The appearance of an increase of Accomplishment verbs in the Progressive is significant, as many Accomplishment verbs are verbs of creation, ingestion, or destruction. Croft maintains that such verbs are often candidates for middle forms in languages, as, for example, an object of ingestion eventually becomes a 'part' of the agent; at the same time, a created object begins as part of the creator and does not exist beyond the act of creation (1994: 106). Verbs of destruction may also be conceived as expressing actions in which the affected object gradually disappears.

The key to such differences in degrees of affectedness is the fact that the object was not whole either before the act or following it – it is either unfolding or unravelling during the speech event, and during this time it cannot maintain its holistic status. In the case of verbs of creation, the object in a Progressive sentence has not yet materialized, though we do not normally say things like *They are building (what will be) a house*. Nor do we say *She is eating (what was previously) an egg*, even though we know the egg is not a whole entity at the moment of speaking. Although we take it for granted that the object referred to is an entire entity, not just a part of it, the sentence is truth-conditionally anomalous, as perceived by Dowty (1979) when he raised the problem of the 'imperfective paradox' (see 2.3, and

Chapter 1). The genitive oblique phrase used with the Progressive perhaps then served to encode explicitly what is implicit in present-day uses of transitive Progressives, and genitive expressions as objects must have been used in some cases to refer explicitly to an object which is a part of an entity, but not a complete one.[23]

Consequently, the effected object, which is part of the process, and the agent, are considered conceptually co-referential, leading to MV interpretations. Prototypical agentivity, as noted above (2.2) involves a change of state of an affected object. If the action is still in progress, this change has not occurred. While it need not be shown that the Progressive expanded its range of uses neatly and discretely from Activity verbs to Achievements and finally to Accomplishments, the MV-Progressives appearing and then disappearing within a short time period may be an indication of a conflict between the meanings of imperfective grammatical aspect and the perfective lexical aspectual meanings of the verbs with which they co-occurred.

The original active participle until this period must have been conceived of as still remotely adjectival in nature for MV uses to be allowed. Goldberg (1992: 5) finds that middle voice forms possess the constraint that the predicate expresses a certain inherent quality attributable to the patient argument. In some ways, then, the participle in such functions could have maintained some of its former adjectival quality from which it originated in Old English. The subject in such cases was therefore not an agent, nor a patient, but an Attributee – that is, a participant to whom the predicate assigns attributes (Schlesinger, 1995: 122). As the form spread to transitive verbs of Accomplishment and especially highly agentive forms expressing creation or destruction, the non-holistic Attributee could be regarded as actively involved in the process referred to, and therefore could become the locus of the effect of the act, thus the agent and the patient of the same effect. Thus a shift in the perspective of the participant role of subject of Progressive constructions would take place, and the MV-Progressive may be hypothesised to be just an intermediate stage in the spread of the construction to Accomplishment verbs, which express both durativity (the prototypical meanings associated with the Progressive) and boundedness (which conflicts with the prototypical meanings). The replacement of the MV-Progressive with a passive form *The house is being built* was therefore likely to be an indication of the increasing agentivity associated with the subjects of verbs of Accomplishment: if the participle had retained its adjectival and attributive meanings from earlier times, the role of the subject referent would not be so agentive, and *the house is building* would be no less anomalous than *the house is old*. Similarly, intransitive Activity verbs used in similar contexts do not present a

23. See also Timberlake (1977) on the parallels between the individuation of object nominals and the gradual change from genitive to accusative objects in the history of Russian. This has been described by Croft (2000) as hyperanalysis.

problem, e.g. *the house is collapsing*, since there is little agentivity involved in such environments. However, as the Progressive spread to dynamic, transitive verbal environments, the agentivity associated with the verbal semantics of those environments would rule out certain subjects that could not act as agents of the Accomplishment main verb. The presence of such uses seems to suggest that the reanalysis of the Progressive to an Aux + V structure as shown in (59) was now complete, and the verbal semantics of the participle were increasing in significance.

Certain cases with an animate subject could be interpreted ambiguously; while *The house is building* may not be a problem, examples such as *The chef was cooking in the kitchen* required that the subject be understood as the agent of the action, which would have been less of a problem when the prepositional construction was available (such a sentence would not have been used, but rather *The food was in/on/at/a cooking*). Warner (1997: 164–5) notes this correlation, as well as the absence of MV-Progressives (which he terms covert passives) with personal or animate subjects.[24] As agentivity began to be associated with the participle, due to its generalisation to Accomplishment verb types, it was possible to interpret the subject as either the agent or the undergoer of the action specified. Hence the need arose to use a *by*-phrase with a limited number of examples with personal or animate subjects (Warner 1997: 163):

(75) Coming home tonight, a drunken boy was carrying by our Constable to our new pair of stocks...

1663 *The Diary of Samuel Pepys* Vol. 4, April 12. (ed. R. Latham and W. Matthews, London 1971)

The passive form, with a stative participle, *be being + V-ed*, was not inconsistent with former analyses of the subject as an Attributee and with the adjectival nature of the participle, and was reintroduced with the passive participle to ensure a non-agentive subject; however, the MV form probably lost ground because of the increasing associations of agentivity in the participle, due to the spread of the paradigm to include more Accomplishments and Achievement verbs. The use of the construction with inanimate or dummy subjects is recorded by Strang (1982: 445) as occurring at the turn of the eighteenth to nineteenth centuries, some time after the time hypothesised above for the generalisation to Accomplishment environments. Possibly, by this time, the use of the (now agentive) Progressive had become relatively unrestricted as far as subject selection was concerned.

Thus it can be seen that the Progressive participle is derived from an agent-noun and then a former adjectival predicate, which is gradually gaining more

24. However, this possibility could well be ruled out by the fact that such types would not be recognisable as MV types today.

verbal senses as it moves away from the noun end and towards the verb end of Haspelmath's noun-verb continuum. As it does so, it increases its verb-like senses in becoming used in more agentive situations, and especially those verbs listed by Vendler (1967) as Accomplishments and Achievements, being typically high in transitivity. As the agentivity of the subject increases, so does the affectedness of the object, and MV-Progressives may have marked an intermediate stage when non-agentive subjects with genitive objects were losing ground, and when the prepositional construction was generally disappearing. This process may not in fact be grammaticalisation, but a process of reanalysis which does not involve the principles of grammaticalisation at all.

2.7 Summary

The present paper argues for a diachronic analysis of the English Progressive aspect as articulated in the passage of a nominal form to a verbal form, via the route of adjective and then participle, exactly as passive participles are shown to develop across languages according to Haspelmath (1994). In Old English, it is seen that the shift from adjective to participle is already in place and the form expresses a wide spectrum of imperfective meanings, including both habitual aspect and continuous aspect. Many of the earlier functions appear to be lost in the progress of its development, leaving only the continuous aspect in the form of the present-day Progressive as a residual member of the imperfective paradigm. Rather than starting off as a highly agentive form, it is hypothesised originally to be a copula expression reduced in agentivity, which it gradually inherits as an implicature of its use with certain lexical classes of verbs and in certain environments (e.g. contexts expressing permanent or temporary duration) and as a result of its formal reanalysis from an adjectival predicate to a verb complex. During the course of this reanalysis, the expression comes to be used more frequently with transitive verbs as well as earlier intransitives, later including those listed by Vendler (1967) as Accomplishments and Achievements, and a by-product of such changes is the temporary emergence of 'middle-voice' Progressives, as discussed in 2.6.2. Such examples may be considered a consequence of an incompatibility between the emerging senses of agentivity and the existing lexical, non-agentive senses in the extension to verb classes affected by the generalising grammatical aspectual form.

The main part of the development is hypothesised to have taken place in Old English when a range of imperfective aspectual uses, including an emerging Progressive function similar to that in use today, co-existed with residual nominal and adjectival functions. The reanalysis is hypothesised to have taken place initially by inferences resulting from a reinterpretation of certain types of agent nouns as

adjectives, which, because of the generic nature of such nouns, gradually acquire grammatical aspectual senses expressing permanent, or time-stable characteristics and habits and later temporary durativity as an entailment in certain contexts. The Progressive construction was not derived from a discrete lexical item which grammaticalised to indicate aspect; nor can it be said to have grammaticalised from a lexical source construction of a locative nature, since the participle form associated with such constructions is seen to increase in agentivity, a lexical feature of verbs, as it develops into part of a verbal complex. Rather, the construction is a complex of copula and participle, and, as such, conforms to behaviour typical of participles – this is why its development can be easily analogized to that of passive participles. While it may be seen that inferences of grammatical aspect correlate with such development, it may also be seen that the loss of earlier functions for the imperfective aspect does not lend itself easily to a grammaticalisation analysis. The formal basis for such inferences indicates a shift from one lexical category (a noun) to another (a verb), via the less lexical category of participle, followed by a generalisation across all lexical aspectual verbal categories, and a grammaticalisation of the copula to have an auxiliary status. On the surface, this appears as though a partial lexicalisation of the participle is accompanying the grammaticalisation of the copula; i.e. it is assuming main verb status. The eventual outcome of this development may be surmised to be loss of the auxiliary and emergence of a single grammatical verbal morpheme (e.g. *-ing*) marked to indicate purely aspectual meanings. However, such speculation remains for further investigation (perhaps with more rapidly developing languages such as creoles and pidgins) to make such predictions.

CHAPTER 3

Perfectivity in English

The case of do*

In the last chapter, we observed the rise of an imperfective marker in English, the Progressive, as the dominant and surviving member of a wider paradigm of imperfective aspectual functions in Old English, but which were no longer marked in the same way in later stages of the history of English. In extending its uses in late Middle and Early Modern English to marking durativity on verbs which were lexically punctual or non-durative, the Progressive exclusively expressed imperfective aspect in predicates in which it would most be needed, while at the same time, those predicates which would have least need of a marker for imperfective aspect, i.e. those which were already lexically imperfective in their inherent semantics, such as Activities and States, would gradually shed their associations with the imperfective, particularly in the past tense, being marked eventually by the simple form of the verb instead. The development of a restricted imperfective aspect in English leaves open the question whether the English aspectual system was ever affected by the presence of a contrasting perfective marker in opposition.[1] Previous studies of the history of the auxiliary *do* suggest that this might have been the case; the present chapter aims to determine exactly why such suggestions should have arisen, and how *do* came to acquire such associations.

Arguments surrounding the development of the auxiliary *do* in the history of English are prolific and exhaustive, but to the present knowledge, there has been little attempt to understand the reanalysis of *do* in terms of semantic change. It is a fact that, like many of the other auxiliaries in English, the form began life as a lexical main verb with transitive objects and developed into an auxiliary verb with

* I would like to acknowledge the helpful comments of the audience at the Spring meeting of the Linguistics Association of Great Britain, April 5–7, 2001, at which the ideas in this chapter were first presented. Acknowledgement is also due to Willem Hollmann for constructive comments and suggestions, to Bill Croft for useful discussion on some of the issues raised, and to the anonymous reviewers of *Cognitive Linguistics* for many valuable suggestions on the earlier publication on which this chapter is based (Ziegeler 2004a).

1 See Chapter 2.4.2 for discussion on the Old English perfective prefixes.

little or no lexical meaning of its own. The diachronic development of *do*, therefore, is often considered alongside the modal auxiliaries in English (e.g. Warner 1993); however, there are differences in its development, in that, unlike the modals, the main verb *do* continues to coexist with the auxiliary use, and its former use in affirmative, declarative sentences is no longer found, except in a few, isolated regional dialects (see, e.g. Ihalainen 1976; Harris 1986; 1991, Klemola 1998, and Weltens 1983, cited in Klemola 1998).[2] There is also the formal question of word order shift from a biclausal structure to a single clause structure, which did not affect the modals and the pre-modals (for which the nominal object was simply replaced by a verbal complement in the same position): *do* occurred as the first verb of a biclausal causative construction, with a medial NP as an intermediate agent. The changes that took place are believed to be the result of a reanalysis, and since a reanalysis should not affect surface structure, there is further cause for investigation.

Furthermore, if the changes affecting affirmative, declarative *do* were typical of those of a grammaticalisation process, as has been claimed for the modal class of verbs (e.g. Traugott 1989), they must have taken place over a short time period relative to the modals in English which are still grammaticalising in various functions today. Thus, the question of the eventual disappearance of unemphatic, affirmative, declarative *do* from the auxiliary paradigm is also in need of explanation, a matter which is still held to question today by some corpus studies; e.g. Nevalainen and Rissanen (1986), who demonstrate that the emphatic uses of the auxiliary in affirmative, declarative sentences may have a more abstract extension in the contrastive and topicalising discourse functions found in present-day spoken use, and Tieken-Boon van Ostade (1987: 50) who cites occasional instances of its use to mark tense contrast with verbs which in English have an identical form for most persons in present and past tense, such as *put* and *cut*. The questions which may arise from earlier studies, then, include whether such present-day uses indicate a grammaticalisation of *do* (and if so, where and how the grammaticalisation process began), and if not, what other functional reasons may have caused the eventual decline in the uses of *do* within the English auxiliary system. Other questions concern the apparent optionality of its use in Middle English and Early Modern English sources, suggesting that there was no obvious linguistic reason for its earlier occurrence in affirmative, declarative uses (Nurmi 1999: 17–18).

The present study will examine Middle English and Early Modern English uses of (mainly) positive declarative *do* to the end of the 17th century, in an attempt to seek out an intermediate stage in which the change from a causative biclausal con-

2. The data used by Ihalainen (1976) have been criticised as being too restricted, and using mostly older speakers of South West rural dialects. Klemola cites Weltens (1983) as a more reliable source.

struction into an auxiliary can be identified to have taken place, and to determine the way in which its underlying auxiliary function was linked to causative, lexical origins. In 3.1, the question of causativity will be discussed with reference to some of the earlier accounts describing the history of the *do*-periphrasis, and with reference to Goldberg's (1995) account of constructions and construction grammar in 3.2. Section 3.2.1 will present examples of some of the construction types appearing in Middle English prose texts of the Helsinki Corpus. In 3.3 the notion of perfectivity will be discussed in relation to a number of present tense environments, and in 3.3.1, examples of the periphrastic form of *do* from the Early Modern English prose texts of the Helsinki Corpus will be presented. In 3.4 the section will discuss a possible semantic route by which the affirmative, declarative auxiliary in a single clause emerged from its former function as a causative marker in a biclausal structure. It is hypothesised that the reanalysis of a basic causative construction type with certain verb types and in particular grammatical environments provided the framework within which the causative meanings of affirmative declarative *do* would lexicalise in some environments, and later grammaticalise in others.

3.1 Previous discussions on causative *do*

The history of periphrastic *do* has been exhaustively covered in the literature (e.g. Davis (1972), Denison (1985), Engblom (1938), Ellegård (1953), Mustanoja (1960), and more recently, Stein (1990) and Tieken-Boon van Ostade (1987)) and it would be well beyond the scope of the present paper to attempt to examine in detail all the previous research. Various hypotheses, however, have been central to past investigations. Many of the earlier ones have been well summarised in Denison (1993) and elsewhere, so will not be repeated here except as a brief mention. The most crucial to immediate investigation are those which account for the occurrence of *do* historically in unambiguous affirmative, but non-emphatic declarative sentences, a function which arose in Middle English, around the 13th century, and had declined by the start of the 18th century (Stein 1990: 12), remaining with only an abstract, discourse function in today's uses (Nevalainen and Rissanen 1986). The seemingly redundant earlier use was explained by Engblom (1938: 79) as first due to the needs of poetic rhyme, and Engblom finds that the function was prevalent also in the first half of the 15th century, when it was used to ensure that a lexical verb occurred at the end of a line of verse. Mustanoja (1960: 603) finds periphrastic *do* in late 13th century western and south-western poetry, but not appearing in eastern poetry until the 14th century. This evidence does not imply that colloquial usage began as a result of its use in poetry; the evidence from poetic texts is more likely, though, to entail an already established presence

in spoken, informal usage, but less likely to be so well recorded, as change usually begins in informal, spoken usage rather than in formal, written situations (cf. also Tieken-Boon van Ostade (1990)). (It may well be due to the absence of prose texts at the time, as pointed out by Garrett (1998) and Tieken-Boon van Ostade (1990).) It should also not be taken as an argument for the independent development of a non-causative use in the West (see Poussa 1990), attributed to the contact situation between Old English and a Celtic substratum (which had a similar non-causative, periphrastic *do*-construction), as it will be seen later (section 3.4.1–2) that causative *do* as a main verb also appeared in Old English texts (many of which were from the West and South West – (as noted by Garrett 1998: 288)). It is claimed by Rissanen (1991: 334) that the periphrastic use began in spoken form and then spread to literary use when there was a need for it, e.g. to translate the French causative *faire*. Although this hypothesis neatly explains the French-English correspondences frequently found in Ellegård's (1953) data, it does little to explain the semantic relationship between the non-causative and the causative use, if one existed, or the reason, if there were none, that *do* would be recruited for this purpose at all. The 'translation hypothesis' as an explanation for the functional emergence of a grammatical category, as discussed in Ch. 2 for the Progressive, does not necessarily imply that such contexts were the only reason for the development of the feature. The explanation of the semantic continuity between causative and non-causative *do* is one which is left largely unheeded in much of the literature, and it is this area which will be the main focus of the present chapter.

Many of the earlier arguments are in favour of a causative origin for *do*, but are taken no further, since the causative function appears to decrease most significantly by the middle of the 16th century, while the periphrastic ('meaningless') use continues until around the start of the 18th century (Stein 1990: 12), and is still found today in restricted situations, as noted earlier. Amongst those who accept a causative origin, though, are, besides Denison (1985; 1993), Davis (1972), Engblom (1938), Ellegård (1953), Mossé (1952), Mustanoja (1960), and Traugott (1972). In such earlier accounts, the general interpretation of 'causative' appears to refer simply to a verb type which may be lexically substituted in present-day English with verbs such as 'make' or 'let' (as a weak causative type), as the first verb of a biclausal structure. In the present study, it will be seen that a much broader meaning can be given to the term 'causative' with reference to a construction type (Goldberg 1995), which can be traced diachronically from a main verb use in Old English. However, typical examples discussed as causative uses in earlier studies (e.g. Denison 1985, 1993; Garrett 1998) include that provided by Ellegård (1953: 28) from Robert Manning's translation of Peter Langtoft's *Chronicle* (original dated 1338):

(1) In token þat he had myght, a kastelle he did reyse

Such examples have been suggested by Ellegård (and later Denison 1985: 52) as illustrating in the frequent use of an authoritative figure as subject referent, a cause who would not need to be the immediate agent of actions for which he or she were responsible; there is also frequently seen a verb of destruction or creation (e.g. *reyse* – 'raise') in such examples, which with its object, *a kastelle*, forms an Accomplishment according to Vendler's (1967) classifications, a typically causative predicate, and one of the situations listed by Denison (1985) as most frequently marked with *do*. The use of *do* was not common as a causative verb in Old English, according to Ellegård, and was renewed in some of its functions by *make* as early as the 12th century in the South-West Midlands (1953: 55), with which it competed in all but the Eastern areas afterwards. Ellegård also believes that the use of *do* as a causative was due to Latin influence, as does Mustanoja (1960: 601), and Engblom finds many translations of Caxton's works by French *faire* ('make, do') (1938: 100), but does not form a definitive opinion on this source. It must be emphasised, furthermore, that the term 'causative' had a much narrower application than will be shown in the present study, and that later accounts, e.g. Nurmi (1999: 22), have shown that there is no substantiation for the possibility of French influence in the Helsinki Corpus texts which were translated from French in the 15th century. Ellegård's work has been treated with caution by a number of later studies (e.g. Nurmi (1999), who finds, amongst other things, Ellegård's dates marking the decline of periphrastic *do* to be questionable, and Garrett (1998) and Denison (1993) (but not Tieken-Boon van Ostade (1990)) who find problems with his hypothesis that the use of the periphrastic form in poetry explained the emergence of the construction). In the present chapter, Ellegård's study will be dealt with mainly as an alternative, comparative source of corpus data.

The reinterpretation of such examples as non-causative, periphrastic uses could well be attributed to the fact that the subject of *do* was a figure of authority and therefore the intermediate agent simply came to be omitted as of no real significance. Verhagen (2000) also notes the importance of authority figures in the historical changes which took place in the history of Dutch causative verbs, suggesting that the decrease in the use of *doen* could be correlated with external factors such as the relative decline in the significance of authority as a sociocultural phenonemon. The same hypothesis could readily be applied to English data, though the precise syntactic changes which resulted in the development of a semantically-bleached, apparently redundant auxiliary form in Early Modern English are still in need of an explanation. Also, biclausal *do* is seen later to have had other paradigmatic counterparts or replacements, which would need to exhibit the same behaviour. Because of the nature and prevalence of historical texts, frequently chronicling affairs of state and activities of important national rulers at the time, the probability of finding an authority figure (such as a king, or religious

leader) as subject in causative sentences historically cannot be minimal. However, there must have also existed uses of causative *do* in which the causee, the lower clause subject, was of equivalent social significance to the higher clause subject and could not be omitted, or cases in which the causee referred to an inanimate entity, or in which the higher subject could not be coreferential with the lower subject; for example, when the verb in the lower clause is intransitive or describes an innate cognitive ability of the lower subject, such as *know*, or *believe* (see, e.g. (10)). For such a reanalysis to have taken place would have required that the semantic role of the medial NP be specified; subjects of verbs of cognition or perception, or of intransitive verbs could not have undergone the same ellipsis since they are often associated with experiencer or theme roles, incompatible with the subject of *do* which is an agent role. In present-day English, constructions are found in which the subject is understood as an indirect agent; e.g. *Schwarzkopf defeated Iraq*, described by Kövecses and Radden (1998: 57) as a CONTROLLER FOR CONTROLLED metonym. Although such expressions may have nothing to do with the development of *do*, they do illustrate a possible alternative explanation for examples such as (1), since they involve instead the substitution of a single noun, e.g. *Schwarzkopf*, to stand alone for a more complex noun phrase structure, such as *Schwarzkopf's army*, as subject.

Moreover, (1) is an example from verse, and the word order of the nominal elements in a parallel prose counterpart would be difficult to determine: it is not clear whether the object of *do* is *a kastelle* (as in 'he did a castle raise/be raised') or whether it is an absent causee ('he did X raise a castle'). If it is the latter, it should also be noted that the biclausal structure still remains in present-day English, with other causative verbs substituting for *do* (e.g. *have*, *make*, as in *he had them raise a castle*), and these verbs may well have been available as suppletions when causative *do* was no longer used with any frequency. The argument is further complicated by the availability of passive infinitives occurring as complements as early as 1300, according to the *OED* (2002), but the concomitant ambiguity over the voice direction of the complement when the passive infinitive is *not* used; e.g. *do bind him* (= (i) 'have him (be) bound' (ii) 'bind him'. (1) could well be just an example of an unmarked passive infinitive, with the meaning: 'He caused a castle to be raised' (see section 3.4.2).[3]

Furthermore, other examples are found in subordinate clauses in which the *do* form and the main verb co-occur alongside each other due to word order restric-

3. The use of the passive infinitive is not attested in the complements of causative verbs until the 14th century, according to Fischer (1991: 162), who provides the following early example: *and dude her sackes to be vndone* (Cursor Mundi?a1400(a1325)). It is possible that it was in variable use at the time (1) was dated.

tions, but in which there is no possibility of the aforementioned reanalysis taking place:

(2) Huanne he ous **dede** come to þe cristenedome we were poure and naked
'When he had/made us come to Christianity we were poor and naked'
(≠ '*When he came us to Christianity.... ')

(1250–1350) *Dan Michel's Ayenbite of Inwyt*
(ed. Morris and Gradon, p. I, 101)

This example from the Helsinki Corpus is illustrative of the type of construction in which a causee NP could not be ellipted (the subject of *do* cannot be considered the subject of *come*). (There is no historical evidence to prove that the development of the auxiliary *do* was *not* in any way affected by suppletion of its causative functions by other possible verbs.) Finally, if the causativity was transferred to the agent of the higher clause, it still needs explaining why the non-causative *do* remained in the construction for so long after the medial causee NP had ceased to be used. One would expect the causative verb to have disappeared along with the causee.

The existence of earlier causative constructions, as illustrated by (2), suggests that the functions of many now lexically-causative main verbs encoding both cause and effect must have been encoded formerly in biclausal periphrastic constructions describing cause in the higher clause and effect in the lower clause. In (2), the expanded means of expressing causativity ('do us come') can be expressed in the semantics of present-day English by 'had us come', or encoded in a lexically-causative verb such as *bring*. The fact that the biclausal construction is still available today, albeit with a different causative verb, or that there is a lexical causative, is evidence to show that the transition to a periphrastic auxiliary described above for (1) affected some environments but not others, and that there must have been restrictions on the nature of the subject and verb in the lower clause (such as the presence of a transitive vs. intransitive verb:??*do come us* is not a possible development from *do us come*, and *do us know* may be ambiguous between a causative and a non-causative reading). Furthermore, there is still a possible authority figure as the subject of *do* in (2) as well, but such a subject could not be regarded as the agent of both clauses. The changes which resulted in the loss of *do* from the auxiliary paradigm must necessarily be considered in the light of possible historical suppletions which means that the causativity is retained in another form. Although Verhagen's (2000) study illustrated that this was not the case with Dutch *doen* and *laten*, there is a need to justify the possibility that the loss of causativity in *do* could be attributed at least partially to semantic changes alone. The conditions under which such changes occurred will be discussed in greater detail below in section 3.4.

Other more recent studies have shed light on the development of the periphrastic use of *do*, though with perhaps less emphasis on the nature of the semantic changes which took place in the transition from a full verb to a more-or-less semantically 'empty' auxiliary. Like Verhagen's studies on the Dutch equivalents, such studies have focussed instead on the nature of the social conditions which may have had an influence on the development and the decline of the auxiliary form. Nurmi (1999) combines the use of the Helsinki Corpus with the Corpus of Early English Correspondence, aiming for more consistency in applying a hypothesis, by using a single genre as the main source of her data, that of letters and correspondence, and by using a multi-genre portion of the Helsinki Corpus to provide comparison. Her data indicate a considerable statistical difference from Ellegård's (1953) studies, providing a valuable consideration of the importance of different text types in analysing the development of the auxiliary, and of the social status of the users of the auxiliary form at later stages of its development in Early Modern English. They also demonstrate that *do* was socially stigmatised by a certain group of speakers in the 16th century. Nurmi suggests that the old construction may have simply yielded to a new construction linking the causative and the periphrastic constructions (1999: 23). This does not necessarily account for a semantic continuity between the two types of usage, nor does it completely explain whether the grammatical periphrastic form, most frequently associated with Western texts at the time, arose *ex nihilo* with no lexical origin at all. However, Nurmi does refer (1999: 92) to the possibility, raised by Poussa (1998), that the strong presence of causative *do* in some of the Eastern texts was due to the influence of Middle Dutch and the contact with Flemish immigrants in Norfolk since the Norman Conquest. Notwithstanding the possible contact origins in the east, the lexical source of the Western periphrastic use is still not accounted for by such an explanation. Van der Auwera and Genee (2002) raise the controversial correlation observable between the contact origins of *do* and the nationality of the linguists studying the feature, conceding, along with Traugott (1972: 141), that the various debates on the sources of periphrastic *do* may never be solved. While the present chapter does not attempt to iron out arguments over typological origins, it does aim to provide a logical path of semantic continuity by which the various earlier functions can be related to its later uses as an auxiliary.

3.2 Present day causatives in constructions

Since the causative use of *do* is no longer available, it may be questioned what means are used to express similar functions in present-day English. There is a large body of past literature which covers the study of causativity both in English and

across languages (e.g. volumes such as Shibatani (ed.) (1976); Comrie and Polinsky (eds.) (1993), and Song (1996), to name a few major publications); however, the semantics of present-day causative verbs can best be understood in association with the recent research into Construction Grammar theory, most notably that of Goldberg (1995). In Construction Grammar, the construction is the basic unit of language, reflecting actions and situations basic to human experience, and, above all, having an independent semantics which is not predictable from the meanings of its component parts (Goldberg 1995: 4–5) or from other constructions existing in the language. In other words, it behaves in much the same way as an individual lexeme, with the exception that it is a compositional structure, reflecting a sentence-type, of which causativity forms a central meaning component.[4] In Goldberg's constructions, the resultative, the caused-motion, and the ditransitive, the core meaning expresses causativity, and is represented as a basic schema in which the causativity, for example, in: *Joe gave Sally a ball*, is a decomposition of the core meaning of the construction: *X* CAUSES *Y* TO RECEIVE *Z*, via its condensing into one lexical item, *give*. While it can be seen that not all lexical causatives can be so easily paraphrased by a central construction meaning, there is justification for proposing that the origins of the *do* auxiliary were associated with what are now described as constructions, and can be regarded in a similar way to the construction types of caused motion: *X* CAUSES *Y* TO MOVE $Z_{path/loc}$, resultative: *X* CAUSES *Y* TO BECOME *Z*, or ditransitive: *X* CAUSES *Y* TO RECEIVE *Z*. The relations between the constructions are such that there is a metaphoric (inheritance) link between caused-motion and the resultative construction, with a change of state perceived as a change of location, and between caused-motion and the ditransitive construction, a human goal being perceived as a locative goal (Goldberg 1995: 88–91 et passim). It will be seen later that such constructions and the relations between them may be relevant to the diachronic origins of causative *do*, offering an explanation as to why the verb, now in its lexical use associated with senses of completion or accomplishment, was used as a causative verb in earlier times.

Goldberg (1995) cites Talmy (1985a) as determining that the caused-motion construction is productive in some languages, but not all. Amongst those which have a productive caused-motion construction are Chinese, Dutch and English (Goldberg 1995: 155). The central semantics of the caused-motion construction in English, *X* CAUSES *Y* TO MOVE $Z_{path/loc}$, are illustrated by a number of examples, the most well-known being *Sam sneezed the napkin off the table* (1995: 154), in which the semantics of *sneeze* alone cannot support a transitive object (**Sam sneezed the*

4. In more recent research, construction grammar encompasses a wider and more general range of phenomena than that of causative constructions alone.

napkin) without an obligatory locative goal argument as complement.[5] (In more recent studies, caused-motion constructions have been rephrased in the core semantics as *X* CAUSES *Y* TO MOVE $Z_{path/loc}$, perhaps better illustrating the sense of transferral of an object to a goal or location; this notation will be adopted henceforth (Goldberg et al (2004)). The independent semantics is thus associated with the entire construction, and no element of the construction can be ellipted to leave the same meaning remaining. This results from the co-predication of the verb and the preposition, which share one argument, such that *sneeze* has the arguments (*Sam, the-napkin*), and *off* has the arguments (*the-napkin, the-table*) (see Goldberg 1995: 155–6) for more detail). It will be seen later in the chapter that the caused-motion semantics were associated with the early main verb uses of *do* in Middle and Old English.

The transitive construction is discussed briefly by Goldberg (1995) and refers to a construction with one proto-role (Agent) linked to the subject of the clause, and one linked to the object (Patient). There is no central sense specified, as with the other constructions. The core sense of the simple transitive is well represented in many main verb examples in the data surveyed; however, it is not considered to be of relevance to the rise of the causative uses of *do*, and thus will not be discussed in the present chapter. In the following sections, the types of causative constructions which appeared in the Middle English part of the Helsinki Corpus data surveyed will be illustrated and discussed with reference to Goldberg's construction-types.

5. On the subject of caused-motion constructions, an anonymous referee of *Cognitive Linguistics* (in which the article on which Ch. 3 is based first appeared) commented that the causative analysis in terms of creating a force is insufficient to describe such constructions, and that examples exist, such as *He drank all his friends under the table*, in which no force is implied, only the drinking capacity in a competitive set-up. However, the use of a locative goal in the latter example is merely metaphorical and the construction carries the same causative force as a resultative construction. Goldberg (1995: 157–9) discusses a similar example as an instance of coercion (citing, e.g. Pustejovsky 1991), or accommodation (e.g. Talmy 1977), in which a non-directional preposition is used metaphorically to express direction (no directional force can be attributed to the verb) via the linking sense of an endpoint in the locative phrase, *under the table*. No examples of this kind appeared in the present data. The same referee has raised the possibility of using the preposition *from* in *Sam sneezed the napkin from the table*. While *from* may in some dialects express a similar path to that expressed with *off*, in others it may suggest an ingressive rather than an egressive action on the part of Sam's sneezing, and therefore be considered semantically infelicitous and not so likely to be used. (Goldberg in later works discusses caused-motion locative arguments as represented by almost any kind of surface prepositional phrase (Bill Croft, p.c.).)

3.2.1 Causative examples in Middle English

In order to investigate the stages of development of positive declarative *do*, a survey was conducted using a number of texts selected from the Middle English and Early Modern English sections of the Diachronic Part of the Helsinki Corpus (see Kytö 1996). The Middle English section is representative of the time period 1070–1500, and the Early Modern English period investigated extends from 1500–1640.[6] Only prose texts were used, the objective being to eliminate any possibility of distortion of the data due to word order or the needs of poetic rhyme. The survey also restricted the environments studied to declarative affirmative uses and mainly finite forms of the verb (except in one or two cases in which the non-finite form was considered to be of special interest), since these environments provided the sources for the later periphrasis. Some interrogatives and negative uses were included in the data and in the statistical figures, but are not to be discussed separately as the main objectives are to trace only the development of declarative affirmative *do* in earlier texts (the presence of non-affirmative *do* did not seem to influence the results in any noticeable way). However, the infrequent appearance of these categories illustrates their relative insignificance until around 1600. The infrequency of negatives and interrogatives with earlier causative uses may be simply due to semantic and logical factors: causativity remains more closely associated with positive, assertive contexts rather than negated assertive contexts, as negated causativity can be ambiguously read as mere enablement, so altering the lexical meaning of the causative verb ('not make' = 'let' (Kural 1996)). The infrequency of interrogative causatives might simply be due to the nature of the texts used. More extensive discussion of the emergence of negative and interrogative *do* is provided in works such as Stein (1990) and Tieken-Boon van Ostade (1987), and more recently in Warner (2005).

Tables 3.1 and 3.2 illustrate the distribution of *do* in past and present tense forms in the Middle English survey.

Table 3.1 Functional distribution of *do* in past and present tense main verbs and auxiliary forms in the Middle English survey (N = 351)

Transitives		Causatives		Pro-verbs	
No.	**%**	**No.**	**%**	**No.**	**%**
131	37.2	116	33	104	29.5

6. A small portion of the Middle English section (ME IV) was not available for the surveys covered in this chapter. Forms searched included all forms prefixed by *do-*, *di-*, *dy-*, and *de-*.

Table 3.2 Functional distribution of *do* in causative types (main and auxiliary verb uses) in the Middle English survey (N = 116)

Ditransitives		Caused-motion		Biclausal causatives	
No.	**%**	**No.**	**%**	**No.**	**%**
58	50	45	38.7	13	11

In the ME data, the uses of *do* as main verb or auxiliary verb have been considered together, as the number of auxiliaries was not so significant as to require separate consideration. (Main verb types amounted to 342 in number, while there were only 9 auxiliaries). The largest number of verb-types in present tense usage came from the simple transitive group (37.2%), in which the verb was used in a declarative main clause with a transitive object. Another frequent usage was that of the pro-verbs, in which *do* served to substitute for another verb previously mentioned in the discourse; such uses appear quite early; e.g.,

(3) þulke ymage he weddede with a ring: ase a man **dotþ** is wif
'he wedded the same image with a ring, as a man does his wife'

1130–1250. *Kentish Sermons* (ed. Hall).I, 433.

Neither of these two functions will be considered as they are still found in present-day English, and are believed not to have influenced the reanalysis in any way. The causative constructions amounted to 116 in both past and present tense uses, or 33% of all uses, and this group was further subdivided into the type of causative construction represented (see Table 3.2). The highest distribution of causative uses was found in the ditransitive construction, represented by 50% of all causatives, and 38.7% of causatives were of the caused-motion construction type. Less significant were the figures for biclausal causatives (11%), of which resultatives (2.5%) featured hardly at all. The type most relevant to the present hypothesis are monoclausal causatives, since it is believed that these were representative of the construction-type that developed into the periphrastic, affirmative declarative auxiliary. Such examples have not been typically associated with causative types in the literature, much less been described as causative if they do appear in earlier works, the majority of causative types listed including only the typical, biclausal constructions which are in fact still in use today, albeit with a different causative verb in the higher clause. Some of such monoclausal examples are found in the ditransitive uses discussed above. In the data presented, the construction type 'do X good' or 'do X harm' (still found in present-day English) was frequently represented, as shown in the following examples.

3.2.1.1 *Ditransitive constructions:*

(4) … i ne **do** þe noon unricht.
' … I do you no wrong.'

(1130–1250). *Kentish Sermons* (I).
(ed. Hall), p. 221.

In (4) a negative main verb ditransitive use is illustrated. In (5), the direct object is pre-posed in the second clause:

(5) and caste oppon him meny snoweballes, and meny oþer reproues **dede** him.
'and threw many snowballs at him, and did many other reproofs to him.'

(1350–1420). *The Brut* or *The Chronicles of England*
(ed. Brie), p. 221

The use of *do* in (4) and (5) can be seen to be paraphrasable by the ditransitive core semantics *X* CAUSES *Y* TO RECEIVE *Z*, such that *i ne do þe noone unricht* can be understood as 'I cause you to receive no wrong'. The core meaning of the construction cannot be predicted from the meaning of its components, i.e. *i ne do þe*, ('I cause you') cannot predict the construction meaning, since the recipient role is supplied by the entire construction (*þe* without the direct object would become the patient role). The same analysis can be given to the caused-motion constructions found in the data.

3.2.1.2 *Caused motion constructions*

The caused-motion construction type, schematically represented as *X* CAUSES *Y* TO MOVE $Z_{path/loc}$, is the next most frequently represented in the ME causatives (38.7%). A number of monoclausal constructions of this type are represented in the sample, the frequency disappearing in the EME data, along with most other causative uses. The construction seems to occur somewhat earlier than the other causative constructions, appearing frequently, for example, in the *Peterborough Chronicle* in the past form (see below), but also occasionally in other texts:

(6) mid þirtti cnihten hit nis me noht iqueme.
Do we awai þane twenti;
'with thirty knights it is not pleasing for me. Let us send twenty away.'

(1150–1250). *Layamon: Brut*.
(ed. Brook & Leslie), p. I, 88.

Do in (6) is in the imperative (or hortative), and was amongst the few examples of a caused-motion construction found in the non-past forms. Although the locative complement in (6) is only a directional particle, 'away', clearly the meaning is that

of 'send', a conflation, illustrating with a raised predicate the type of 'deep' structure described by Talmy (2000: 539) as HAD-GO (for past tense), and indicating that *do* appeared in caused-motion as well as ditransitive functions at the same time diachronically.

A sizeable proportion of such constructions appears in one text alone, *The Peterborough Chronicle*, in which there are 12 examples of the function amongst the total of 24 past-tense uses appearing in this text. Examples include the following:

(7) He brohte his wif to Engleland, & **dide** hire in þe castel on Cantebyri.
'He brought his wife to England, and put her in the castle at Cantebury.'

(1070–1154). *The Peterborough Chronicle* (ed. Clark), p. 59.

Another example, in which the meaning 'put', is obtained is found in (8):

(8) & medle hem wel to-geder & **do** hem in a brod vessel ful of holes
'and mix them well together and put them into a broad vessel full of holes'

(1350–1420). *A Late Middle English Treatise on Horses*. (ed. Svinhufvud), p. 105.

The semantics of the construction type as *X* CAUSES *Y* TO MOVE $Z_{\text{path/loc}}$ is clearly illustrated in such examples, in which the meaning of *do* correlates with causative 'put' or 'send'. They also illustrate the way in which the causative construction has an independent semantics, not predictable from the meanings of its component parts: the semantics of 'cause-to-move' being condensed into the meaning of a single verb of which the meaning can be paraphrased by the construction schema (the semantics of 'cause-to-move$_{\text{path/loc}}$' is not predictable without the locative complement, e.g. in (7) & *dide hire* 'and put her' cannot express direction or path, and is unacceptable without a locative complement). Bybee et al. (1994: 38) discuss crosslinguistic lexical sources for the grammaticalisation of the completive aspect as derived from allative verbs such as 'go', and 'put into', as well as 'finish'. It might seem then at first glance that *do* is the source for the grammaticalisation path of a completive aspect, under such an analysis, and that the grammaticalisation initiates within the framework of a construction. The possibility of a grammaticalisation route will be discussed further below.

3.2.1.3 *Biclausal causatives*

As noted above, there is another causative type represented by a biclausal construction in which *do* can be translated by 'make' or another causative in the present-day gloss, and in which there is often a direct object of the lower clause verb. This

category exemplifies what is most typically described as causative in earlier accounts, as the following two examples exemplify:

(9) a. and þet he **do** þe do swiche werkes þet þu mote habbe þo blisce of heuene.
'and that he makes you do such works that you might have the happiness of heaven.'

(1130–1250). *Kentish Sermons* (I). (ed. Hall), p. 218.

b. Was it noht suithe lang þerefter þat te king sende efter him & **dide** him gyuen up ðat abbotrice of Burch & faren ut of lande.
'Was it not so long thereafter that the king sent for him and made him give up that abbotrice of Burch and leave the country.'

(1070–1154). *The Peterborough Chronicle* (ed. Clark), p. 54.

In (9), the causativity is transferred to the medial agent, subject of the lower clause; which then acts upon the patient (*swiche werkes* and *ðat abbotrice*). (9a-b) are typical of the constructions in which a reanalysis of the type described by Ellegård (1953) and Denison (1993) clearly would not have taken place: the two clauses cannot share the same subject. Furthermore, the biclausal structure cannot represent a construction type of the kind illustrated by Goldberg (1995), as the causation is not direct, nor represented as a single event, a restriction on both caused-motion and resultative constructions, and certainly there is no transfer of possession usually identifiable with ditransitives. The presence of an intermediate agent rules out candidacy for construction-hood. Note also that the main verbs (*do* and *give up*) are themselves lexically causative; this is an indication of the weakening of earlier source meanings in the matrix verb, even at this stage. There are very few examples of this type in the Helsinki Corpus ME data surveyed.

Another type of biclausal construction which indicated a weakening of causative senses was that in which the lower clause contained a *to*-infinitive. In the Helsinki texts surveyed, the only 4 present tense examples of this type were all complemented by a stative verb of cognition or experience, not typically referring to a situation over which very much causative control can be exercised. One example appeared in *Layamon's Brut*, with the verb 'to know' appearing in the complement:

(10) Ac ich **do** þe wel to witene;
'But I do you well to know (let you know)'

(1150–1250). *Layamon's Brut*. (ed. Brook and Leslie), p.I, 82.

In Ellegård (1953), the use of *do to know* is considered distinct from the original uses of causative *do*, and he notes that it dates back to Old English. However, there are numerous examples of the construction appearing in *The Ormulum*, and many such examples appear to contain other verbs of cognition or emotion. Without the *to*, and depending on the context, the object of *do* could have been understood as the object of *know* also, the infinitive possibly having having been supplied to maintain the causativity in cases of ambiguity when causatives began to reanalyse (see below). However, a semantic reason may also serve to explain it (see section 3.4).

3.2.1.4 *Biclausal resultatives*

Another type of biclausal causative identified in the survey was the biclausal resultative, represented by the underlying core semantics of a change of state. These were rare in the Helsinki Corpus, though a few good examples appear in Ellegård, which include the following (1953: 68):

(11) he **dede**... þat calf melten in fir
'he caused the calf to melt in the fire'
'he melted the calf in the fire'

(c. 1300). *Genesis and Exodus*. (ed. Morris), l. 3579.

In (11), the change of state meaning could be expressed as in the core semantics of *X* CAUSES *Y* TO BECOME *Z*, where the complement could be understood as 'become molten'. This biclausal type of construction has been isolated for the fact that, unlike the other biclausal constructions, it can be perceived as one event, with no intervening agency on the part of the medial NP. The gloss can be ambiguously read without *do*, indicating that its causative use must have been becoming optional already within such constructions (in other biclausal causatives, the causative verb is retained in the present-day gloss). The reasons for such redundancy will be discussed in section 3.4.

To summarise, the examples appearing in the Middle English part of the Helsinki Corpus show a prevalence of causative constructions which can be associated with those recently described by Goldberg (1995), mainly caused motion and ditransitive constructions. The data reveal a predominance of a large number of monoclausal causative constructions, which, though not having received the same attention in previous accounts as the biclausal ones, are still inherently causative in their semantic composition and thus provide evidence that the causative use of *do* was far more widespread in Middle English than is often assumed.

3.3 Perfectivity

So far, no reference has been made to the possible grammaticalisation of a an aspectual function for *do*, as questioned in Chapter 1. Later uses seem to reveal a perfective aspectual function, as suggested by Denison (1985; 1993). Denison's account does not clearly specify that it is grammatical perfectivity that is referred to; in fact, he sees *do* as a marker of perfective Aktionsart or lexical perfectivity. Hopper and Traugott (2003: 95) discuss the interpretations provided by Denison (1985) and Stein (1990) of a perfective function for periphrastic *do* as one in which the focus shifts to the achievement rather than the cause of a past event. Van der Auwera (1999) discusses the crosslinguistic implications of a verb meaning 'do' developing accomplishment or 'perfective' meanings (and finds evidence in Middle Dutch from Duinhoven 1994), but questions the evidence for the transition from causativity to accomplishment and from accomplishment to general periphrasis (1999: 467). One wonders, though, whether the lexical verbs with which it co-occurs could just as easily have supplied the perfective meanings without the *do* periphrasis, and such an explanation may not adequately account for uses of present-tense *do* nor of habitual *do* which was also found throughout the time in which the auxiliary was used, as seen below, and is still used in some modern dialects today. The use of the term perfectivity with respect to periphrastic *do*, should, therefore, be more closely analysed. Hopper and Traugott's (2003) discussion leaves open a number of questions, including that of the lack of semantic continuity found so far between the original causative functions and the later, periphrastic uses, and they justifiably call for future investigation to resolve such problems. Perhaps, instead, what is described as perfectivity relating to the causative use of *do* is little more than merely implicativeness (see Karttunen 1971; Givón 1973; 1980; and 1997: 64), or what Horn (2001: 324) describes as the entailment relationship holding between the main clause and its lower clause complement.

Grammatical perfectivity is understood as referring to an aspectual marking which focuses on the end-point of a situation (see Comrie 1976; Langacker 1982, Bybee et al (1994), and others); while lexical perfectivity encodes the end-point focus within the lexical meaning of the verb itself; in many languages grammatical marking for perfectivity is not found on lexically imperfective verb types, e.g. the Mandarin Chinese grammatical perfective morpheme *le* is not found with stative verbs. There are two major problems, though, with positing a grammatical perfective function for *do*: the first is that typically, grammatical perfectivity is hypothesised to be a stage prior to the grammaticalisation of past tense itself (Bybee et al. 1994: 92; Lehmann 1995: 29), past tense emerging only when grammatical perfectivity extends its uses to stative verbs (Van der Auwera (1999: 463) notes the attribution of a 'do' derivation to the Germanic dental preterite, citing earlier

accounts such as Tops (1974), which would mean that the origin of the past tense suffix itself was in fact a verb meaning 'do'). Clearly, past tense was already well grammaticalised at the time *do* appeared as a periphrastic auxiliary (*do* itself appearing often with past tense uses). Thus, although it seems highly plausible that a causative function was the original function of *do*, the transition to perfectivity is less easily explainable, as it would seem redundant to have a new grammatical perfective aspect grammaticalising at a time when past tense had already grammaticalised to cover past stative environments as well as lexically-perfective, non-stative ones.[7] Moreover, regardless of the tendencies observed as to the attraction of *do* to verbs with inherent perfective lexical meaning, there appears to be no functional reason for marking lexical perfectivity either. The mere observation of a given state of affairs does not explain why it originated. Clearly, the grammaticalisation of a new marker of perfectivity in the system requires consideration of the overall aspectual situation at the time.

The function of marking lexical perfectivity is more clearly demonstrated in a number of alternates illustrated by Engblom (1938) in which the same verb is used by the same author (and often in the same text), in some instances with *do* and in others without, conveying what at first appears to be an arbitrary distribution. Some of these instances occur in the Paston Letters (1441–1478) II 334:

(12) First, I **did** write to his maistership a litill booke of Pheesyk, for which I had paide by Sir Thomas Leevys in Westminster... Item, I wrote viij. of the Witnessis in parchement, but aftir xiijd a peece, for which I was paide of Sir Thomas... And also wrote the same tyme... Item, I **did** write to quairs of papir of witnessis;

(Engblom 1938: 101)

The use of *do* as a periphrastic auxiliary in (12) is clearly determined by the lexical aspect of the co-occurring verb: if it is found in an Accomplishment function, it takes *do*, thus supporting Denison's (1985) claims discussed above that the periphrastic use co-occurred most frequently with verb types which were inherently lexically perfective, and transitive. There is, then, a visible link between grammatical perfectivity and lexical perfective aspect, and this will be better revealed in the data in section 3.3.1. Thus, if *do* did serve as a marker of grammatical perfectivity, then such examples illustrate that it might have been first attracted to verb types which were lexically perfective in the first place. This type of attraction has been accounted for by a principle of Relevance, according to Bybee (1985), by which (i) the semantic content of one element directly affects or modifies the semantic content of another; and (ii) the meaning of a category associated with a verb directly

7. As we have seen, though, in Chapter 2, the presence of past tense in the system does not preclude the development of an imperfective aspect marking lexical imperfectivity.

affects the lexical meaning of that verb stem (1985: 13–15). Bybee's Principle of Relevance predicts that the most common co-occurrences of inflectional or derivational categories are those with semantic features in common, thus like attracts like. However, it is difficult to explain the motivation for such a function. Perhaps the grammaticalisation of perfectivity was only a residual by-product of other changes taking place in the system, in the loss of earlier causative lexical senses. The aspectual system clearly had no functional motivation for a new grammatical perfective marker, and the later decline of affirmative declarative *do* indicates the obvious functional obsolescence of the form.[8] Possible reasons for the presence of a perfective marker should be viewed in light of the entire aspectual system, as discussed below.

A second problem is that of accommodating for the present tense uses of *do* within in an account which discusses perfectivity as the general grammatical function of periphrastic *do*, since grammatical perfectivity is not typically associated with the present. The use of grammatical perfectives in the present is confined to only a few functions, as discussed by Langacker (1982); these include performatives which coincide with the speech event, and habituals, in which each episode of the action referred to is bounded in time and perfective, but in which the entire sequence of bounded episodes is imperfective (1982: 289). The default aspectual sense of the present tense of non-stative verbs, unless marked by the Progressive aspect, is the habitual aspect, and this still remains one of the functions of *do* in some South-West dialects of England, as noted above (but see, e.g. Ihalainen 1976, Klemola 1998, and Weltens 1983, cited in Klemola 1998, who attest to the fact that habitual aspect is not the exclusive function of *do* in such dialects), though the loss of *do* has meant that this function is now served by the main verb alone in standard dialects. Thus, habitual *do* is only a function of its uses as a perfective marker extended to the present tense (note the scarcity of past habitual *do* in the data in Tables 3.3–3.6).9 It is interesting to note, though, that there are a number of uses of the present tense *do* periphrasis which mark a single event, not a habitual sequence of events, and in which the present perfect may be substituted in

8. According to Bybee et al. (1994: 298–300), the appearance of a grammatical marker is not directly related to a functional need within the grammatical system, but to the cognitive processes which motivate its development. If this is the case, then redundant perfectivity marking is easily accounted for as a direct result of a cognitive process, and the later disappearance of the auxiliary is also more clearly explained.

9. Similar extensions of perfectives to express present habitual aspect are found in Slavic (Dahl 1995: 420); in southern Chinese dialects (Lu 1991) and in Atlantic creoles (Holm 1988).

present-day English. Such uses have been noted by Garrett, who quotes the following example (1998: 298):

(13) …. A swiþe fair welle, Fram **ȝ**wam alle þe wateres on eorþe comiez ase ðe boc us **dez** telle
'… a very fair spring, from which all the waters on earth come, as the book tells us'

(c1300). *South English Legendary*, 7/201–202.[10]

This and similar examples are noted as appearing in verse by Engblom and Ellegård, which would provide one possible reason for the use of *do* in the fact that many writers wished to place the infinitive at the end of a line for rhyming purposes. But later examples include the following from Engblom's data:

(14) & all that thou **doost** promyse is very trouth;

(1530). *The Works of John Fisher* 106/3
(Engblom 1938: 104)

and another example from late EME, co-occurring with a completive adverb, from Visser (1969: #1418–20):

(15) So fares it with our poet, and I'm sent To tell you he already **does** repent.

(1693). Congreve, *Old Bachelor*, Prologue 8.

In earlier examples, verbs such as 'tell', or 'teach' (as in (13)) occur quite frequently (these are typically ditransitive). There is no sense of habituality, as the sense is not one of describing the characteristics of the subject nor a series of events, but rather of marking the occurrence of a single event, which may have finished just prior to speech time but has continued relevance in the present, in much the same way as a present perfect. Garrett (1998: 298) refers to such uses as (13) as describing what Jespersen (1931) has related to generic statements (or timeless truths). This may be the case with (13), but even so, it does imply a sense of enduring relevance in the same way as (14) and (15). What these verbs have in common is that they occur with verbs of communication which are therefore paradigm cases of ditransitive constructions. The tendency to use present tense with an anterior function is continued into the present day, in what has been labelled the 'information present' (Denison (1992), Dahl (1985: 81)) also refers to the 'reportive present' in which perfective verb forms; i.e. the simple form of the verb (often, though not necessarily verbs of communication), may be used to accentuate the immediacy of an action

10. There is possible ambiguity in the glosses for (13) – see discussion under (15).

with respect to speech time. Note also that the completive adverb, *already*, in (15), is a likely marker of anterior aspect or inchoativity, one of the functions described by Comrie (1976: 20) as relevant to the perfective aspect crosslinguistically (in Singaporean English, the use of the adverb *already* parallels a perfective function in marking changes of state as well as completed events – see Bao (1995)).

Another type of perfective present noted by Dahl (1985) and Langacker (1982) is that of the performative (Austin 1962; Searle 1969). A number of performative uses of *do* start to appear in the 16th century, according to Visser's data (though, as noted by Tieken-Boon van Ostade (1987: 41) and others, Visser's examples are often not very representative in their selection). For example (Visser 1969: 1506):

(16) wee **do** forbidde [these books] to be redde in the Church … and **do** excommunicate … those that **do** admitte them, or **do** attend unto them as true storyes.

(1604). *Warn-Word to Sir Fr. Hastinges* 18; (*A Treatise on the Three Conversions of England*). Part III, 27.

The last two examples of *do* in (16) are habitual in function, but the first two mark the instigation of a law-like act. There is perhaps a sense of lexical retention in such uses of the former causative meanings, as the expression of the utterance enables its realisation, and marks a weakly causative act. This may be one reason why *do* was also used in positive imperatives. Tieken-Boon van Ostade (1987: 69) cites one example which well illustrates the performative function, from an 18th century edition of the *Spectator* (1711, p. 47):

(17) that I **do** hereby enter my Caveat against ….

The sentence is described as being typical of legal or ecclesiastical language, a function for *do* already discussed with reference to Dryden's 18th century prose (1987: 50). Nurmi (1999: 85) also refers to Klemola's (1996) observation of a tendency to occur in Early Modern English trial proceedings. The presence of the adverb *hereby* confirms that (17) is a performative use, and it may well be the case that performatives frequently appear in legal contexts because of the frequency of oath-swearing, vows and declarations, in which the performance of the speech act enables its realisation. The increased appearance of such uses might demonstrate a general restriction of use to highly formal, archaic contexts, an indication that the affirmative, declarative uses were by then on the decline.

A final possible function of *do* that is discussed in the previous studies is that of a marker of sequence in narrative discourse. The interchangeability of *do* with the present perfect also emerges in temporal and conditional subordinate clauses, in which it seems to carry the function of marking the sequencing of tenses, the completion of one event relative to another, or the presupposition of given infor-

mation – in this respect it has an anterior function. Anterior uses for perfective markers in other languages were discussed by Hopper (1982a), Givón (1982a) and Bybee et al. (1994), amongst others. A typical example of anterior marking in discourse, for example, is found in Sango, a creole of Central Africa:

(18) tɛrɛ amá tongasó awe, lo kpé tí lo bíaní
spider SBJ:hear thus **finish** 3.s run to 3.s truly
'When the spider had heard this, he ran away for sure'

Bybee et al (1994: 70)

Bybee et al discuss the use of the verb *awe* 'finish', in (18) to indicate the sequencing of tenses, conveyed in the discourse by occurrence of the anterior marker at the end of a preceding subordinate clause. The same use is found in some of the historical examples of *do* (which also refers to completed action – see (15) which is reinforced by a completive adverb). (Engblom (1938: 114) notes the use of *do* for marking the conjunctive mood in conditional protases, but rejects the examples found in *Andrew Boorde's Works* as not showing any regular pattern; for example: *If a man do exsyde this ordre*; (1938: 241), may appear alongside examples such as: *And yf they knowe that they be infected* (1938: 294). However, since, as we have seen, *do* co-occurs mainly with lexically perfective verb types, there is good reason for the absence of its appearance with lexically imperfective verbs such as *know*, *feel*, or for marking events which are not perfective, e.g. *Yf the sycke man wex sycker and sycker* (1938: 302). The relative infrequency of the auxiliary with verbs of perception and cognition such as *know* has also been noted by Tieken-Boon van Ostade (1987: 37) (even for negative sentences in the 18th century) and others whom she cites, such as Traugott (1972) and Jespersen (1940). Thus, although such examples may not make up a large number of affirmative declarative cases, it is interesting that they have not so far been recognised as directly related to the grammatical perfective functions of *do*. More such examples will appear in the data surveyed below.

3.3.1 Perfective functions in the Early Modern English survey

Table 3.3 Functional distribution of auxiliary forms of perfective *do* in present tense main clauses in the Early Modern English survey (N = 98)

Performatives or Emphasis		Discourse-marking perfectives		Other	
No.	**%**	**No.**	**%**	**No.**	**%**
41	41.8	34	34.6	23	23.3

Table 3.4 Functional distribution of auxiliary forms of perfective *do* in present tense subordinate clauses in the Early Modern English survey (N = 113)

Anterior		Habitual		Anterior/Habitual		Other	
No.	%	No.	%	No.	%	No.	%
62	54.8	18	15.9	12	10.6	21	18.5

Table 3.5 Functional distribution of auxiliary forms of perfective *do* in past tense main clauses in the Early Modern English survey (N = 96)

Discourse-marking perfectives		Other	
No.	%	No.	%
82	85.3	14	14.4

Table 3.6 Functional distribution of auxiliary forms of perfective *do* in past tense subordinate clauses in the Early Modern English survey (N = 36)

Anterior		Other	
No.	%	No.	%
30	83.3	6	16.6

The functions which could be described as perfective in the survey were all found in the Early Modern English data, marking mainly grammatical perfectivity. The main differences between the ME data and the EME data are that there is a marked increase in auxiliary uses in EME. The present tense data have been divided between main clause uses and subordinate clause auxiliary uses, as the auxiliary appears to have different functions in main clauses from those in subclauses. There is a total of only 19 occurrences as main verbs, but 211 auxiliary tokens in the selected texts, of which 98 appeared in main clauses and 113 in subordinate clauses. The perfective uses appearing in the EME present tense forms were represented as discussed above: a performative function in main clauses, and an anterior/sequencing function in subordinate clauses, a function which could only be described as a discourse-marking function (see below); there was also a category labelled 'other' which included a small group of types having less than 10% representation each, including habituals and those ambiguous between anterior and habituals.

For reasons of space limitations, the main verb uses will not be exemplified; they were largely made up of pro-verbs, which are not considered to be related to the grammaticalisation of causative *do*. The relative paucity of main verb tokens is

an indication that by this time, the development to auxiliary status was well under way. The auxiliary types are illustrated below.

3.3.1.1 *Present-tense main clause perfectives: performative/emphasis*
In some of the examples, it was unclear whether the primary function of the verb was to express a performative function, or emphasis, or both. Because of this, the examples having such functions have been classified in one category. They include the following:

(19) a. And now if it please you my Lorde Chiefe Justice, I **do** direct my Speach specially to you.

(1554). *The Trial of Sir Nicholas Throckmorton*. (ed. Hargrave), p. I, 72.C1.

b. This **do** wee command you, to deliure vnto him,

(1598). *Elizabeth I. Letters. [The Edmondes Papers]*. (ed. Butler), p. 402.

In (19a) the use of *do* encodes both a performative action in which the act is accomplished in the utterance of it, and the speaker's possible need to express emphasis at the same time. In (19b), the performative using *do* is in the written correspondence of Queen Elizabeth 1 to Sir Thomas Edmondes, and clearly demonstrates that the early performative uses were often associated with figures of authority, since authority figures must have been more frequently associated with manipulating events by utterance. (There is also a strong sense of emphasis in (19b) in the inversion with the subject, and an association in such examples with legal situations; this was noted earlier (see (7) and (8)). Both (18) and (19) appear in assertive main clause environments in which there was a total of 41.8% of such functions; a much smaller number (9%) was found in assertive subordinate clauses, in which performatives would be less likely to occur.

3.3.1.2 *Present tense main clause perfectives: discourse-marking*
The possibilities have been discussed above for the use of a grammatical perfective aspect in the present tense, and the realisation of this function is affected by the type of clause in which it appears, whether main clause or subordinate. Basically, the anterior use in subordinate clauses and the discourse-marking perfective in main clauses are parallel manifestations of the same function, distinguished only by the clause type in which they occur: in subordinate clauses they mark presupposed or 'given' information, and in main clauses they appear to signal important events in the discourse (see Binnick 1991 for more discussion on this

function). The proportion of grammatical perfective uses in subordinate clauses was far higher than in main clauses (54.8% anterior, compared with 34.6% main clause perfectives). This latter type is illustrated below:

(20) Therfore I deuide A.B. into fiue partes equall, then **do** I open the compast to the widenesse of three partes (that is A.D.) and let one foote staie in A.

(1551). Robert Record, *The Path-way to Knowledg*., p. C3R.

The text in which this example appears is an instruction guide in geometry, and Rissanen (1991: 327) notes 36 out of the 42 instances of *do* used in scientific prose occur in just this one text. The *do* auxiliary is not always present, and is represented in a number of functions. It could be the case that the function of grammatical perfectivity is virtually neutralised in this text, as the only possible linguistic function appears to be that of marking sequencing in the discourse and the sign-posting of a series of instructions in a logical order – there is no necessary correlation with lexical aspect, but the function corresponds to that of the simple present in today's uses to mark play-by-play narrative. (20) is another example of inversion with the subject, indicating possibly an additional function to mark emphasis – see further discussion under (30). According to Miller and Leffel (1994), the function of *do* in 15th and 16th century prose was a foregrounding role in discourse. Rissanen (1991: 338) also describes the periphrastic expression in EME as serving a discourse-focusing function. As a perfective marker, it is well represented in such a function.

The other main clause perfective use appears to mark single events which have recently occurred but have an enduring relevance to the moment of speaking, in much the same way as is described above. Some examples appear with verbs of communication, as discussed earlier; others with lexically-perfective verbs which simply have an implicature of current relevance in their present-day uses; for example, *appear* or *seem*. 9 such examples appear in *The Trial of Sir Nicholas Throckmorton*, which has a total of 51 perfective uses, e.g.:

(21) it **doth** appeare..., that diuerse Cases haue bene adjudged Treason,....
[Attourney] It **doth** appeare, the Prisoner did not only intise or procure [Wiat, Caroe, Rogers], and others, to commite their trayterous Actes, and there **doth** his open factes appear …;

(1554). *The Trial of Sir Nicholas Throckmorton*. (ed. Hargrave), p I, 73.C2.

The frequency of *do* with verbs such as *appear* has been observed by Nurmi (1999: 91) for other texts in the Helsinki Corpus as being simply formulaic; however, logically, *appear* is an Achievement verb, and thus is lexically perfective, a typical environment for the attraction of a grammatical perfective marker. Like other verbs of

perception, though, e.g. *see*, when used in the unmarked present, *appear* describes both the perfective event and the inception of a result state which can be coerced from the perfective event which preceded it (see Comrie (1976: 20) for discussion of similar examples, e.g. *see*, *sit*, and *know*). In this way, then, the use of the grammatical perfective aspect marked by *do* with such verbs reinforces the perfectivity and conveys much the same aspectual sense as the present perfect aspectual form of any other verb. Langacker (1982: 274) also discusses the aspectual interpretation of such verbs of perception as one of perfectivity in combination with imperfectivity. In the above examples, it is clear that the use of *do* is to distinguish the perfective reading from any possible imperfective or stative alternative, and possibly to signal an inchoative meaning in the verbs (note again the tendency for a post-adverbial inversion function in the last example – see discussion under (30)).

3.3.1.3 *Present tense subordinate clause perfectives: anteriors*

In subordinate clauses, perfectivity can be seen to mark the completion of one event relative to a subsequent event described in the main clause, as perfective markers frequently appear to mark sequence in the discourse (as noted earlier – see Hopper 1982a) across many languages, and in subordinate clauses they are grammaticalised as anteriors. Such examples may possibly be substituted with the *have* perfect in present-day English; in some cases, they are substitutable with the simple present of perfective events discussed above. Examples of this function include the following, in a conditional clause, one of the types of clauses discussed by Givón (1982a) as associated with anteriors crosslinguistically:

(22) then if you **do** marke their crossing,

(1551). Robert Record, *A Path-way to Knowledg, Containing the First Principles of Geometrie*. p. C2V.

Some examples may appear in relative subordinate clauses, marking a presupposition of factivity:

(23) I humbly beseech you to giue me such Benefite, Acquitall, and Judgement, as the Lawe in this Case **doth** appointe.

(1554). *The Trial of Sir Nicholas Throckmorton*. (ed. Hargrave), p. I, 68.C2.

In (23) the sense is more of a completed action with relevance to the moment of speaking rather than a habitual action: the clause contains an adverbial referring to a single event: *in this Case*.

3.3.1.4 *Present tense perfectives: habitual, and other functions*
In the corpus, there were some examples of pure habituals in subordinate clauses, and they appeared in a greater number than in the main clauses (15.9% in subclauses – the main clause figures of 8.1% are not so significant). The following example illustrates the use of a main clause habitual co-occurring with a reinforcing frequency adverb, and a subordinate clause habitual together:

(24) And as my Lord here hath sayd, the Law always **doth** adjudge him a Traytor, who was priuie and **doth** procure Treason

(1554). *The Trial of Sir Nicholas Throckmorton*. (ed. Hargrave), p. I, 73.C1.

There were also some examples of anterior/habituals in subordinate clauses:

(25) Another, is a lacke I finde in the exercises vsed in the Vniuersities, which **do** make to great a diuorce betweene Inuention & Memory

(1605). Francis Bacon, *The Twoo Bookes of the Proficience and Advancement of Learning*. p. 5R.

As with the main clause example above, the use of *do* in (25) could well be the description of a habitual action, evidence of which can be provided in an indefinite series of completed actions prior to the moment of speaking: the context accommodates both the habitual present and the *have*-perfect of present-day English.[11] There were rare instances of a purely non-conditional subjunctive use also appearing amongst the present-tense subordinate clause uses:

(26) And be it allso enacted... that no persone or persones, after the first daie of Auguste next cooming, **doo** caste or unlade out of any maner of Ship crayer or any other Vessell,... any maner of Balaste rubbishe gravell or any other wracke of filthe

(1500–1570). *The Statutes of the Realm*. p. III, 907.

(26) is another example illustrating the use of *do* in formal, or legal contexts, and, as discussed above, a restriction to formal or archaic usage may indicate a general receding of use.

It should be noted, in summary, that many of the present tense functions for *do* illustrate a possible defining role in the necessity for a perfective marker to arise

11. Repeated prior action may be implicit in some uses of the *have*-perfect (e.g. *she has always done it that way*), though it does not necessarily convey the possibility of repeated action following the moment of speaking. The nature of the subject (plural, generic) may also contribute to the meanings of repeated or habitual action, e.g. *the universities* in (25))

at a time when an imperfective, in the form of the Progressive aspect, was just beginning to emerge in opposition, and perhaps had not by then regularised its distribution (see Ch. 2 for more details). All the examples in (13–17) and (19–26) can be glossed using one or other function of the simple present in today's usage, but the zero-marking of present-day perfective presents (see Bybee (1994)) could not have served to distinguish them sufficiently from imperfectives at a time when the default aspectual form of the present tense, which is imperfective, was not yet restricted to durativity, and was still used in some cases to mark habituals (see Ch. 2 for more discussion).[12]

3.3.1.5 *Past tense main clause perfectives: discourse marking*

There were 132 auxiliary uses as against only 28 main verb uses. Of these, 96 were found in main clauses, the majority (85.3%) of which have been described as discourse-marking perfectives in that they sometimes refer to a state change in the object of the main verb, frequently occurring in an Accomplishment context, but otherwise simply highlighting a prominent event in the discourse; e.g.:

(27) vpon this same sand... **did** the Master of this great worke build a round circular frame of stone

(1630). John Taylor, *The Pennyles Pilgrimage*, p. 132.C2

A large number of similar Accomplishment uses (27 out of the total of 40 tokens) appear in a single text, *The Diary of Lady Margaret Hoby*, and co-occurring with the same verb and in the same context repetitively, thus indicating that the function might not have been so frequent in the texts as the statistics might illustrate; e.g.:

(28) after priuat praier I **did** eate my breakfast and so went to church

(1599–1605). *Diary of Lady Margaret Hoby*. (ed. Meads), p. 70.

Note that the use in (27) (see also (20) and (21)) for a similar use in the present tense) is marked by inversion, most likely for the purposes of placing the main verb, or new information, at the end of the sentence in rheme or comment position (see Rissanen 1991). (30) also illustrates such a use, though the same strategy is not employed in (28), suggesting that it was not a grammatical rule related to the

12. The question that arises from this discussion, therefore, is why a perfective marker was used to mark habitual aspect when an imperfective marker had adequately served that function in Old and Middle English, as shown in Ch. 2. Such issues appear to illustrate the increasing restriction in the aspectual scope of the Progressive as it changed from a general imperfective marker to a Progressive. The perfective functions of present-tense *do* then serve to contrast non-durative action with durativity expressed in the Progressive.

fronting of the adverbial, but instead related to the particular discourse preferences of the author. All the instances referring to the eating of the speaker's breakfast in the *Diary of Lady Margaret Hoby* are marked by *did* (apart from two examples in which the past tense, appearing as *eate*, is used), though there is some prevarication in the use of *did* in other contexts, indicating that it has a perfective function in appearing in certain Accomplishment contexts. However, for the speaker concerned, it may not have been obligatory in such contexts: it also occurs with *write a letter*, but not *write out a sermon*, and can occur with Activity uses of *write*, e.g.:

(29) After priuat praier I **did** write; then I **did** eat my breakfast then I went about the house and then I wret out my sermon

(ibid.), p. 79.

The use in the first example in (29) is not wholly determined by the lexical verb class, as *write* is not used in an Accomplishment sense in this instance, but the last example is an Accomplishment so should appear with *did* if this were obligatory in Accomplishments. It could be hypothesised, then, that for this speaker, the form remains almost obligatory in certain Accomplishment contexts such as *eat* (+ direct object), but not with others. Otherwise, the use of the auxiliary at this stage may have been reduced to only a stylistic function for individual writers, as claimed by Nurmi (1999: 94), or Rissanen (1985), as cited by Nurmi (1999: 119) who indicates that it was becoming a dispreferred form for many writers at the time in any case. Certainly, it can be shown that the examples appearing in the *Diary of Lady Margaret Hoby* were by far not frequent: there were only 40 instances of *did* compared with 199 instances in which it could have been used, but was not. However, amongst the verbs with which it did co-occur, *eat* features most frequently, in 25 (out of the 27 instances), indicating a *tendency* for this speaker to use it in certain Accomplishments, if at all, but not a frequent one (it never co-occurs with *come* or *go*, though these verbs are repeated throughout as well). Many more examples occur in one text, *The Diary of Henry Machyn*, with the verb *preach*, not followed by a direct object and so used as an Activity verb; there are 15 out of the total of 28 examples in that text almost identical in form to the following:

(30) a. The 20th day of August **dyd** pryche at Powlles crosse master Wattsun

(1550–1563). *The Diary of Henry Machyn*. (ed. Nichols), p. 41.

b. The 29th day of November **dyd** pryche master Feknam at sant Stheyns in Walbroke

(ibid.), p.96.

It is interesting to observe that the multiple uses of *did* as exemplified in (30) are also from a diary text, but do not co-occur in Accomplishment contexts, so it is unlikely that they will mark lexical perfectivity. The perfective function in this text is grammatical and discourse-based. The topicalisation of the adverbial is another possible reason for the use of *did* in such clauses, as noted by Rissanen (1991), resulting in the inversion of the verb and subject and the focusing of the subject and main verb in comment position, though the inversion occurred just as often in the same text without the auxiliary.[13] Such repeated uses are probably also exemplary of what Nurmi (1999: 98–9) describes as formulaic with respect to some of the Helsinki examples.

Categories listed under *Other* in the tables include 9 examples which could be described as performatives or of emphatic use (often difficult to distinguish in written texts), 3 ditransitive causatives, and 2 unclassified.

3.3.1.6 *Past tense perfectives in subordinate clauses: anteriors*

The number of subordinate clauses was far fewer than that of main clause uses, but the functions of *did* differed somewhat. By far the greatest proportion of uses came from anteriors (83.3%), in which the verb could often be substituted with the present-day *have*-perfect. The majority of such uses were in factive subordinate clauses, in which there was a need to use a marker of relative tense; e.g.:

(31) It is said, that King [Iames] the fifth (of famous memory) **did** graciously offer to purchase for them,... certaine low and pleasant grounds a mile from them on the Sea shore

(1630). John Taylor, *The Pennyles Pilgrimage*, p. 130.C2

or in the following:

(32) and about Paul's cross, for speaking against the bishop that **dyd** pryche the Sonday a-for

(1550–1563). *The Diary of Henry Machyn*. (ed. Nichols), p. 98.

In (31–2), there is a justifiable substitution with the present-day *have*-(plu)perfect, and especially in (32) in which the anteriority is reinforced with an anterior time

13. Examples include: *The xxvj day of July cam unto the Towre my lord marqwes of Northamton...* (p. 38). Rissanen (1991: 328), however, notes that the use in this diary avoids an otherwise awkward final consonant cluster in (e.g.) *preached*. But the consonant cluster is available in today's use, illustrating that the phonotactic argument could not have played an important part in the development of periphrastic uses. It may simply mean that if there was an auxiliary form available, it could be used for such purposes. Rissanen, in any case, does not consider private diaries to be a suitable resource for establishing generalisations about the use of *do* at the time.

adverb, *the Sonday a-for*. Tieken-Boon van Ostade (1987: 211) cites some of the interpretations of 18th century grammarians of the aspectual significance of *do*, suggesting that there must have been a certain amount of confusion over the grammatical function at the time; some of the accounts point to an imperfective use similar to the present-day Progressive, while Collyer (1735) refers to a 'preter-perfect' or a 'preterpluperfect' use, i.e. probably similar to the pluperfect of today's uses. The latter description is readily supported by the examples given above, at least for the past forms of the auxiliary, though Tieken-Boon van Ostade does not agree with the proposals of the 18th century grammarians (in relation to the examples in her corpus). Klemola (1998: 51) also finds that between 9.7% and 15.4% of uses associated with recent dialect corpora from the South-West of England appear in temporal or conditional clauses, suggesting an anterior function.

Another type of anterior categorised under 'other' was the experiential anterior, marked by co-occurrence with an adverb of indefinite time reference, such as *ever*, or *never*. Four such instances were found using subordinate clause auxiliaries; e.g.:

(33) wherein I obserued the fairest and goodliest streete that euer mine eyes beheld, for I **did** neuer see or heare of a street of that length,

(1630). John Taylor, *The Pennyles Pilgrimage*. (ed. Bruce), p. 6.

In present-day English, the pluperfect would be more likely to appear in such a function, 'for I had never seen nor heard of a street of that length;'[14] however, again, the use does not appear to be obligatory, as there is no *did* in the preceding clause which also expresses experiential anteriority. It is possible that *did* marks emphasis here as well.

There was only one example of an anterior/habitual, in which the use of *did* could serve as both a past habitual marker and a marker of anteriority:

(34) Also thanne we cam to the place wher our blyssyd lady **Dede** reste hyr many tymes ffor werynesse

(1517). Richard Yorkington, *Ye Oldest Diarie of Englysshe Travell*. (ed. Loftie), p. 29.

The frequency adverbial (*many tymes*) permits a habitual reading of the verb, though the time reference of the subordinate clause is anterior to the time reference of the main clause (= 'had rested'). For this reason it has been classed as an ambivalent case. It is also interesting for the fact that the simple past could not be substituted here at all, the *do* auxiliary clearly serving an aspectual (relative tense) function.

14. There may be dialectal variation where this is concerned.

To summarise, the perfective function is thus manifested in the following main categories in the EME data surveyed: for present tense, performatives (or emphasis), play-by-play accounts, discourse marking or focusing, perfective anteriors, and a few habituals; for past tense forms, only discourse marking uses and anteriors were the main functions appearing. All such uses represent a grammatical perfective function for an auxiliary which is likely to have emerged out of a causative verb in specific, transitive contexts and then generalised across a range of grammatical environments, at a time when a new imperfective aspectual category, the Progressive, was likely to be developing in opposition. It now remains to examine the way in which the reanalysis took place.

3.4 Discussion of the data

The data provided, though covering only a limited number of texts, do not appear to suggest the presence of an overlapping, transitory stage of development spanning causative, main verb *do* and non-causative, auxiliary *do*, which would normally be suggestive of a grammaticalisation process. A far wider survey covering a more diverse range of texts might be necessary to determine more clearly if there had been a grammaticalisation stage appearing in the course of the development of a causative main verb to an auxiliary in a single clause structure. The presentation of the data in the sections above illustrates the earlier existence of (mainly monoclausal) main verb causative construction types, and a sudden change in the EME data to monoclausal auxiliary forms apparently marking mainly an aspectual discourse function, but with little indication of an intermediate linking stage which might suggest a channel of grammaticalisation between the earlier and later stages when the verb could serve either as a causative main verb or as an auxiliary. One possibility of a linking stage is found in one or two examples in *The Statutes of the Realm*, in which the passive infinitive appears, illustrating the writer's desire to distinguish the active infinitive from the passive, e.g.:

(35) it was conteyned that no persone denysen nor stranger shuld carye or **do** to be caried to any parties beyond the see any Wollen Yarne

(1500–1570) *Statutes III. The Statutes of the Realm,* p. III, 29.

The passive form of the infinitive is not found co-occurring with *do* in earlier texts in the data surveyed. As noted earlier, it is not known with what frequency the passive infinitive forms were used (though Ellegård (1953: 106) finds a few rather infrequent examples in *Merlin*), and there appears to have been a number of instances at this time when the active form of the infinitive could just as well have been

understood as either passive or active in meaning. Fisher, Richardson and Fisher (1984: 48) illustrate a causative use in the *Signet Letters* (1434–1455), in which a passive interpretation is given to the non-passivised infinitive immediately following *do*: *we wol ye do make a patent* ('cause a patent to be made'); Nurmi (1999: 80) provides the example: … *the seyd Robert schall pay or do pay to the same Cecilie* … (*Handbook Other:* 1470–1500, Robert Reynes, 289), in which a passive orientation of the infinitive could be conceivable, and there is no suggestion of a second agent. Another possibility is that of a linking stage existing much earlier than this, though, and can be constructed from examples available in Ellegård's (1953) data, as shown below. Hall (1960[1970]) provides an entry for *do* in Old English, in which it is explicitly stated that one of the meanings of the verb is: "... *cause* (often followed by the inf.[initive] with a passive sense – as in *hig dydon ricu settan* 'they caused kingdoms to be founded', i.e. 'they founded kingdoms'...)" (punctuation mine – DZ). It is also interesting that Engblom (1938: 45) lists a number of uses of *do* which co-occur with finite forms (past participles) of the verb, as in *The Diary of Henry Machyn* (1550–1563). Only one of these examples appears in the Helsinki sample, there are six other examples listed by Engblom, e.g. *and Bluwantyll dyd proclaymyd that no players shuld play*. It is possible that for some dialects, the causativity belonging to the earlier uses of the auxiliary still persisted and necessitated the use of a participle rather than an infinitive; such uses could have represented a stage of *be*-deletion subsequent to the stage illustrated in (35) in which the passival infinitive is explicitly expressed for the sake of disambiguity.

Disregarding the pro-verbs, and simple transitives, which do not necessarily have causative functions, the predominant constructions in the ME data are ditransitives. A large number of caused motion constructions and some biclausal causatives also are found in the data, especially in Ellegård (1953), though the biclausal causative is not a major feature in the ME part of the Helsinki Corpus; it is also a construction still found in today's English, with possibly supplanted forms substituting for *do*. Also observable is a small group of biclausal causative constructions (e.g. (10)), with the verb in the second clause preceded by the preposition *to*. These are insignificant in number and restricted to a particular group of verbs including those such as *know*, *believe* and *understand*, which still co-occur with causatives in present-day English; e.g. *he led me to believe*; *I was given to understand*. It is likely, then, that such constructions remained causative and did not reanalyse, since the subject of the lower clause is not an intermediate agent, rather it is an experiencer, and thus conflicts with the agentive semantic role of the causer subject of *do* as noted above in section 3.2. The relationship between argument roles and the reanalysis of *do* will be raised again below.

Thus, in describing the source structures of the ME data, we are left to explain the links between three identifiable causative construction types: ditransi-

tives, caused motion types, and (biclausal) resultatives, and a later stage in which *do* serves as a 'bleached' auxiliary. What is not so clear from the Helsinki data surveyed is the reason that the biclausal causative is almost absent, and why, in all the data surveyed, the monoclausal resultative construction is also virtually absent. Ellegård (1953) illustrates many biclausal examples, some of which appear in prose, demonstrating clear evidence for what appears to be an ambiguity with the non-causative use of *do*:

(36) the wheche **dedyn** hir sweryn on a boke...
a.?'who made her swear on a book... '
b.?'who swore to her on a book... ' (my glosses -DZ)

(1440). *Margery Kempe*, p. 115–6.

Such examples exemplify the use of a ditransitive biclausal construction, one possible environment for the development of the ambiguities necessary for a surface structure reanalysis of the causative main verb *do*. The loss of causativity and the eventual disappearance of the lower agent, the medial NP, might then have been related to a reanalysis of the surface structure of the ditransitive construction, in which the medial NP could be interpreted as either the direct object of the ditransitive verb, as in (36a), or the indirect object of *do* in the first clause, as in (36b). That such ambiguities were possible was due to the fact that the forms for the dative and accusative personal pronouns had merged and were the same by the ME period (Wright & Wright 1928: 158); the same coalescence is reported for 13th century Dutch by van der Horst (1998: 59). The reinterpretation would then spread into non-ditransitive constructions, and inevitably *do* and the main verb would form one complex verb phrase with a post-posed object.

The only problem with such an account is that in permitting the reanalysis of the medial NP as an indirect object, it presupposes that at the time the periphrastic reading must already have been available as an alternative reading of the same surface structure. If the periphrastic construction was accessible prior to the reanalysis of ditransitives, it remains to ascertain which construction types first permitted its emergence. It is hypothesised that such changes must have taken place either in biclausal causative constructions with what have been termed labile verbs (see, for example, Haspelmath 1987; Song (1996: 26)) in the lower clause, i.e. (unaccusative) verbs which have a causative-non-causative alternation, or in verbs for which the subject of their intransitive use in the lower clause can be the object of their transitive use in the upper clause. Such verbs have also been isolated as a distinct causative-inchoative 'event' class of a three-part causal chain by Croft (1990), in which a verb may participate in the stages of causativity, inchoativity, and stativity. An earlier example of this verb type is the following, repeated as (37):

(37) he **dede**... þat calf melten in fir
'he caused the calf to melt in the fire'
'he melted the calf in the fire'

(c. 1300). *Genesis and Exodus*, 1–3579.

The causativity in 'he caused the calf to melt in the fire' is sufficiently weak to allow 'he melted the calf in the fire' as a reinterpretation, as the verb in the lower clause can readily be made transitive. The construction is typical of what Goldberg (1995) describes as resultative, in that it contains a core meaning *X* CAUSES *Y* TO BECOME *Z*, for which the constraints for non-adjectival result-states specify that there must be no intervening time period between the cause and the effect (Goldberg 1995: 198). The result-state, that of being melted, is directly caused by the agent subject of *do*, and again there is an inanimate patient object undergoing its own change of state. Such environments are the most likely ones to serve as the 'beach-head' for the transition to non-causativity, and the model for the subsequent reanalysis in ditransitives (the causative and the non-causative readings would now both be available).

Resultatives are also the environment in which the reanalysis into single-clause 'conventionalised scenario' constructions (Goldberg 1995) takes place in present-day English – see Ziegeler and Lee (forthc.). The alternation, between typical examples such as *I had my hair cut* > *I cut my hair*, has been demonstrated in tasks of direct elicitation using native speakers, and is hypothesised to reflect a metonymy. It is likely that the same metonymic shift took place in the history of *do* with resultatives, with the difference that in the *have*-causative there could be no intermediate stage in which the auxiliary and the main verb coalesced to produce *I had cut my hair*, since this is blocked by another form, the perfect. An intermediate stage illustrating co-occurrence of *do* and the participle form is discussed above, under (35), but it is not known how widespread the stage is, since it is rare in the corpus examples. The type of change necessary for the shift from a biclausal structure to a monoclausal structure must necessarily involve a reanalysis, and a reanalysis, according to Heine and Reh (1984: 95) and Langacker (1977), is a change in the semantic structure of an expression which is not manifested by any surface modifications. It is therefore crucial that for a reanalysis to take place, both interpretations, the earlier and the later one, must be ambiguously derivable from the same (unmodified) structure. The kind of reanalysis possible in such constructions can be represented thus:

(38) X *do* Y (to) *v* = 'X causes Y (to) V/be V-ed', or, 'X Vs Y'
[→ X *do v* Y]
[→ X *v* Y]

The first line in (38) represents the stage at which both the causative and the non-causative readings can co-exist, and in the second line the stage at which the formerly causative verb and the main verb coalesce as one verbal complex, involving a word order shift in many cases, and resulting in the loss of conceptual distance between the cause and the effect. This stage lends itself most readily to the development of perfective aspectual senses in *do*, by a combination of two factors: the now neutralised causative semantics in *do*, promoting its agent subject to be both the completer or effector of the event as well as the cause, and the subsequent rise of direct over indirect causation. Such examples illustrate the most likely environments in which the loss of *do* as a redundant verb could be found at later stages, as shown in the last line in (38): they are biclausal constructions with intransitive verbs which can be made transitive by the lexicalisation of the causative verb to become part of the semantics of the main verb (the main verb now stands metonymically for both the cause and the effect – see also Panther and Thornburg (2000)). Such a mechanism may give rise to the possibility of 'double causatives' with particular verbs which undergo vowel change for a lexical causative alternate, e.g. *sit/set*, *rise/raise*, *lie/lay*, and examples are found in which the infinitive is already causative; e.g. (1). If it is hypothesised that the infinitive of such examples can be understood as passive, as noted above, thus allowing for a patient object as medial NP, exactly as with the labile verbs, such examples may still be classed as resultative; what is common to both cases is the demoted agency of the medial NP, and the preservation of the surface structure necessary for a semantic reanalysis to take place (which would not be the case if the reanalysis were due to the ellipsis of an intermediate agent).

Such a reanalysis could best be described as an example of 'hyperanalysis', within the general mechanism of form-function reanalysis (Croft 2000). In hyperanalysis, a semantic property of the syntactic unit becomes reanalysed as part of the linguistic environment in which the unit appears, resulting in semantic bleaching of the syntactic unit (Croft 2000: 121). In this way, the process is not unlike a grammatical metonymic shift. In the case of the hyperanalysis of *do*, the semantic property of causativity inherent in *do* is reanalysed as part of the semantics of the verb in the lower clause, resulting in the redundancy of *do* and its final loss from affirmative, declarative uses in the auxiliary paradigm.

Few of the causative-inchoative verb type appear in the Helsinki Corpus data surveyed: in the EME period in which *do* is always used as an auxiliary, the number of causative-inchoative verb types co-occurring with it amounts to no more that 16 out of the 343 tokens, only 4.6% of cases. Van der Horst (1998: 60) notes that similar constructions (his 'Type 1') appeared in Middle Dutch, and they emerged before the type ('Type 2') classed in the present study as biclausal (indirect) causatives, a causative type which is still found in Dutch today (and, as noted, also in

English, albeit with possibly supplanted causative verbs). Van der Horst also asserts that it was the Type 1 construction (which is seen to contain a labile verb in the lower clause), which gave rise to the biclausal Type 2 constructions. Although it cannot be ascertained that such changes could also apply to English *do*, Van der Horst claims that the early reanalysis of periphrastic *do* in the West of England, and the geographical separation often cited as co-existing between periphrastic *do* in the West and the (indirect, biclausal) causative (Type 2) use in the East, lends credence to his, and to the present hypothesis that English periphrastic *do* reanalysed from constructions similar to (37) (note that labile main verbs such as *open* in (20) can reappear at later stages indicating that *do* is by then well established as an auxiliary; if not, they would also have reanalysed). Thus, the initial reanalysis of periphrastic *do* was nothing to do with the co-existing, biclausal indirect (Type 2) causative in the East, a different construction type altogether. In English, the periphrasis replaced the type illustrated in (37), which subsequently disappeared from use, while in Dutch the type can still be found, a situation possibly attributable to word-order differences between the two languages. But in English, the periphrastic auxiliary co-existed with the (prototypical) biclausal causative simply because it did *not* arise out of it.

This is clear evidence to show that the reanalysis was not a case of grammaticalisation; if it were, one would expect an increase in the range of environments in which grammaticalisation began. The absence of such environments is an indication that *do* had already co-lexicalised with the infinitive by ME times: the auxiliary becomes redundant in certain environments, and the rate of redundancy is therefore measured by its *non*-occurrence where it could be most expected. Fischer (1999: 87) reiterates Romaine's (1982: 212) observations that the tendency for syntactic change is to develop first in areas where it is least noticeable or salient. Such a hypothesis, a 'null-hypothesis', is necessary in order to understand the process by which the causative meanings are hyperanalysed across a historical time period, and come to be incorporated as part of the meaning of the transitive verb.

Although few examples of causative-inchoative complements appear in the Helsinki data surveyed, some indication that these were the first environments in which the causative verb was co-lexicalised may be found in potentially ambiguous examples in Ellegård (1953). In most of the examples in Ellegård, the medial noun phrase or causee refers to a human being; in one or two cases, it refers to an inanimate NP (sometimes with a complement expressing sound emission), for example (1953: 69):[15]

(39) Belles **deden** he sone ringen …

15. Some of the examples from Ellegård appear in verse texts.

a. 'They immediately caused bells to ring'
b. 'They immediately rang bells' (My glosses – DZ)

(1300–1320). *Havelock*, p. 242.

One or two interesting ambiguities also occur in *Arthur and Merlin*, the original of which Ellegård dates to c. 1330, was written in the London area (A). This is a verse text with a later version (D) appearing in Dorset (c.1400) and another from Shropshire (c.1450) (L – both texts being from the West or South-West). The later versions seem to illustrate a confusion over the transitivity of the co-occurring infinitive (Ellegård 1953: 86):

(40) (A) he … **dede** hem drawe on þe pauement

(c. 1330). *Arthur and Merlin*, 383.

(D) And leet hem to drawe on þe pauement

(c. 1400). *Arthur and Merlin*, 367.

(L) & then drew them on a pauement

(c. 1450). *Arthur and Merlin*, 339.

The *D* version supplies another causative verb, *let*, combined with a *to*-infinitive to provide a weaker interpretation of the causativity in the original; in the *L* version, though, any overt expression of causativity is lost altogether, and the meaning is transitive. This is perhaps an indication of the fact that the writers of the latest version had interpreted the original use of *do* as already reanalysed with such verbs, and that the infinitive of the former versions should be treated as passive.

The life-history of catenative causative constructions is then hypothesised to be linked to the semantic role of the medial NP, with the following patterns emerging:

(41) a. [X *do* $Y_{Agent/Theme}$ V (Z)] → [X (*have, make, let* etc.) $Y_{Agent/Theme}$ V (Z)]
b. [X *do* $Y_{Experiencer}$ to V (Z)] → [X (*have, make, let* etc.) $Y_{Experiencer}$ to V (Z)]
c. [X *do* $Y_{Patient}$ V] → [X V $Y_{Patient}$]

The formation of the verbal complex is thus, iconically, a formal manifestation of a conceptual shift in which causativity becomes conflated within the semantics of the complement verb; it incorporates the entire causal chain of causativity, inchoativity, and stativity described by Croft (1990) in one lexemic form. In (41a) it can be seen that the medial NP with the highest level of causativity or control over the event in the lower clause remains intact, and *do* may be simply supplanted by another causative verb (as in the gloss for (2)). In (41b) the level of control attributable to the medial NP is further reduced, and this is indicated also in the

distancing of the caused event in the lower clause from the causer subject of *do*, by the insertion of a *to*-infinitive, as in (10) (see e.g. Haiman (1985) and Fischer (1997b: 111)) on the conceptual iconicity this produces). In (41c) the medial NP as Patient has no control over the caused event, and is reanalysed as the object of the infinitive in a single clause structure.

Verhagen (2000) notes the steady decline in the use of animate causers as subjects of the Dutch form *doen*, over three centuries, and attributes such factors to the decrease in the use of authority figures as subjects. It should further be noted that the use of *doen* is now linked with the emergence of direct, automatic, or non-intentional causation in Dutch (Verhagen 2000: 265), which is the hypothesised stage at which the English reanalysis took place, and there is an apparent tendency for the subject of the infinitive in the complement to have a non-agentive thematic role, such as experiencer or theme. Verhagen and Kemmer (1997: 70) also note that *doen* will occur when the initiator of the event (i.e. the subject of the causative *doen* rather than the subject of the infinitive), has a more important role to play than the causee in the effecting of the event, and such evidence would suggest that in languages in which the *do*-auxiliary is still in use, the range of environments in which it occurs is restricted to some degree to those in which the causee is in some way demoted (as would be the case if the infinitive were treated as passive, or the lower clause verb has a Patient/Theme NP as subject). If this were the case, the transition to a single clause construction, as shown above, would not be inconceivable.

In the Helsinki Corpus data surveyed, such uses are few and far between, perhaps the reason being that they, of all types, would most readily have sustained hyperanalysis of the causative meanings, and hence would create an optimum environment for the redundancy of the auxiliary use, perhaps with a brief period of overlap in which ambiguities were possible. This means that the single-clause construction with *do* occurring as an auxiliary, having generalised to other verb types, would develop briefly as an auxiliary marking first lexical perfectivity (as a measure of transitivity), illustrated by the second line in (38), and then very quickly develop to mark grammatical perfectivity in discourse with all verb types. The resulting increase in usage frequency for the auxiliary, relative to the main verb, is shown in many studies and seems to suggest a later grammaticalisation (see Traugott (1995; 2003.), Traugott and König (1991), and Hopper and Traugott (1993[2003]) for accounts of the development of text-marking functions through grammaticalisation).

3.4.1 Old English sources

What has not been discussed, though, is the meaning of the original source main verb *do*. Garrett (1998: 300) maintains that the original meaning of *do* in main verb

functions was 'put' (see also (6–7)). This meaning has already been illustrated in many earlier examples, where it has been categorised as occurring in a caused-motion construction. Earlier uses, then (and such uses date back to Old English, according to Garrett (1998)), are single clause caused-motion constructions, in which the main verb *do* carries the full meaning of 'put', i.e. basically 'cause-to-move'.[16] As such, it requires no accompanying verb to indicate the nature of the movement, and the causativity and the movement senses are condensed in one lexeme; e.g.:

(42) Wiþ eagece genim wiþowindan twigu gecnuwa awylle on buteran **do** on þa eagen.
'For eye ache, take twigs of withewind, pound, boil in butter, put on the eyes'

(850–950). *Leechdoms, Wortcunning, and Starcraft of Early England, II* (1) 2.20.
(Garrett 1998: 300)

Fischer (1998: 125) also notes this meaning for German equivalents found in Early New High German cookery books, in which the verb *tun* 'do' appears to have replaced a number of verbs with a caused-motion meaning. The use is still found in colloquial German dialects today, though Fischer takes the matter no further (but see Abraham (1999) for more research on the verb in German dialects). This is clear evidence to attest to the Germanic origin of causative *do* in English, as noted by Verhagen (1998: 104). In (42) the underlying core semantics of the caused-motion construction are contained in the meaning of the verb *do* itself. In Ziegeler (2004b) it is maintained that the causative meanings with which biclausal causatives were associated later were derived from the bleaching or generalisation of caused-motion senses to a meaning of general causativity, accompanied by changes in the nature of the complement so that an entire infinitive clause would replace the locative goal that had been associated with the earliest, Old English, caused-motion uses. However, it is noted that the caused-motion uses did not disappear along with the generalisation to periphrastic uses (compare the historical date for (8) with that of (1)); they overlapped for a lengthy time period. It should also be remembered that at the time at which the biclausal resultative in (37) was observed (1300), there was no evidence in any of the texts surveyed of a monoclausal resultative, and it would be surprising not to find any such functions. Garrett (1998: 300), however, observes one such construction in *Leechdoms* (II: (3)

16. It is important to note the early appearance of causative meanings in Old English main verb uses. The Old English presence of causative *do* suggests that there is a possibility that *do* might have undergone reanalysis at an earlier time period in the west, as many of the OE texts were written in the dialects of West Saxony (Mitchell 1995: 13). Miller and Leffel (1994: 179) also note that peripihrastic *do* spread from West to East.

39.2.7): *Seo sealf … þone wyrm þæron deadne gedeþ* ('the salve … makes the worm dead'), and, in spite of admitting that (monoclausal) resultative and 'causative' (i.e. biclausal causative) *do* are related to each other and the source meaning of 'put', he goes no further with this observation, instead choosing to disregard such uses as merely lexical. In some of the resultative uses he describes, though, the meaning of *do* can be glossed not as 'put', but as 'make' in present-day English.

The reason that single-clause resultatives do not appear in Middle English is that they had all been marked with the *ge-* prefix in Old English, which, according to Brinton (1988: 203–4), functioned to express telicity in its verbal semantics, as noted in Chapter 2. This prefix was lost by Middle English times in all but non-finite forms as a past participle prefix, where it was often phonetically eroded to *y-* or *i-* (Brinton 1988: 212). Reduced now to a single phoneme, it would eventually disappear from use altogether. A survey of the Old English texts in the Helsinki Corpus reveals a large number of monoclausal resultatives expressed using the prefixed form of *do*, also revealing that the resultative form of *do* (*gedo-*; *gede-*; *gedyd-*; *gedid-*) was distributed across a range of different functions. The following table illustrates this distribution.

Table 3.7 Distribution of causative *do* in the Old English texts of the Helsinki Corpus, by complement type (main verb uses have not been included)

Complement type	Construction type	N
Adjectival	Resultative	39
Locative	Caused motion	38
That-noun clause	n/a	24
Nominal	Resultative	6
To-infinitive	n/a	2

It is clear from the distribution that argument structure construction types of the kind described by Goldberg (1995) predominate, with slightly more resultative types than caused-motion. Large numbers of caused-motion types were obtained from a single text, *Leechdoms*, in which the prefixed form of the verb seemed to alternate with the unprefixed form, as in the following:

(43) & þonne mid feþere **gedo** in þa eagan on morgenne
'and then with a feather put it on the eyes in the morning'

(850–950). *Leechdoms, Wortcunning, and Starcraft of Early England, Vol. II*. Ed. Cockayne, R.2.3.2

Note that in (42), the unprefixed form of the verb is alternatively available in the same text, indicating, at least for caused-motion constructions, that the use of the telic prefix must have been optional for those constructions (some caused motion constructions continue to appear in ME, without the prefix – see Table 3.2). The multiple repetitions of sentence structures similar to (43), used to convey instructions to the reader on folk medicine, are likely to have biased the data in favour of caused-motion constructions in this one text. However, it should also be noted that other Old English texts displayed similar repetitive syntactic structures, such as the resultative construction in the form of the adjectival complement, which frequently occurs in religious texts in expressions which could be glossed as 'make me whole', having the core semantics of *X CAUSES Y TO BECOME Z*, just as for the biclausal type illustrated in (37); e.g. as in *The Paris Psalter*, and *The Vespasian Psalter*:

(44) ac **ðu**, Drihten, aris, and **gedo** me halne; forþam þu eart min God.
'but you, Lord, arise, and make me whole, because you are my God'.

(950–1050). *The Paris Psalter*.
Ed. Bright & Ramsey. R 3.5

Other examples of adjectival complements include the following:

(44') Swa **deð** se godcunda foreðonc; he astereð þone rodor & þa tunglu, & þa eorðan **gedeð** stille
'So does the divine providence; he moves the planets and stars, and the earth makes still.'

(850–950). *Alfred's Boethius*.
(Ed. Sedgefield). R 39.131.2

Such uses appear as early as 850, and continue until the end of the Old English period, according to the data surveyed.[17]

Of the other types represented, only noun clauses introduced by *that* seem to predominate (24 were counted). Examples include the following:

(45) þeah we wepon on æfen, he **gedeð** þæt we hlihhað on morgen.
'though we weep in the evening, he makes us rejoice in the morning.'

(950–1050). *The Paris Psalter*.
Ed. Bright & Ramsey. R 29.5

17. Note also the form of the first example of *do* in (44'); the fact that it is different from resultative *do* indicates a difference of function: the first example is illustrative of Denison's 'anticipative *do*' (1993: 260–1), which must have grammaticalised along a different path from that of causative *do*, its meaning already clearly more desemanticised than the latter.

Such constructions are said by Ellegård (1953: 19) to have disappeared long before the biclausal causative emerged, and he denies any possibility that this was the predecessor of the periphrastic auxiliary form. He also notes, though, that the subject of the complement is not the same as the subject of *do*, and given the meanings that we ascribe to such constructions in present-day English it would seem to suggest that such types represented the forerunner of the biclausal causative. This would be difficult to prove, though, unless it could also be shown that another construction could have intervened before the biclausal construction surfaced, for example, the *to*-infinitive form, which appeared to be just emerging at the same time:

(46) gelæde on ealles to micle hatheortnesse, o**ðð**e eft sio bilewitnes & sio anfealdnes hine to ungeornfulne **gedoo** to ongietanne, **ð**ylæs he weor**ð**e besolcen.
'bring forth everywhere much zeal, and after if there be simplicity and harmony; make him understand indifference, lest he become inactive.'

(850–950) *Alfred's Cura Pastoralis*.
(Ed. Sweet). p. 239.

In (41b), the construction type represented in (46), the use of the *to*-infinitive complement is presumed to be due to a weakening of the causativity associated with the typical biclausal causative as it has an experiencer subject rather than an agent subject, and thus requires less causative effort on the part of the subject of *do* to bring about the caused result. However, given the fact that such examples appear in Old English (also noted by Ellegård (1953)), the *to*-infinitive might instead be serving as an earlier link to the biclausal stage which appears later according to Ellegård, with an agent as medial NP. It would be difficult to predict such a development without more data, but, for the meantime, we can agree with Ellegård (1953) that the noun (*that*-) clause complement structure was not the predecessor of the periphrastic auxiliary form, nor is there evidence that it 'developed into' the biclausal causative. Given that the consecutive appearance of two or more forms at different times in the historical data should not necessarily be taken as indicating a link between the two forms, a developmental link can only be established with any confidence if the two forms are in semantic continuity with one another. However, it is possible that it was a development from caused-motion constructions, since these contain a spatial, directional goal, which is metaphorically supplied in the meanings of the *to*-infinitive complement (movement towards an event is understood in terms of movement towards a location).

Other constructions found included those in which the resultative construction has a nominal complement; six such examples were observed, e.g.:

(47) Wi**ð** la**ð**um lælum & wommum, heortes smeoro gemylted & mid storscyllum gecnucud & gemenged & to sealfe **gedon** & on geseted.
'For painful bruising and scarring, melt hart's oil and with an incense- burner, pound and mix it, make it into an ointment and apply it.'

(850–950). *Quadrupedibus*.
(Ed. Vriend). R 229.

Interestingly, there were also one or two examples in which the complement contained an abstract 'quality' noun, e.g.:

(47') & þy ilcan geare lædde Ecgbryht cyning fierd on Norþ Walas, & he hie to eaþmodre hersumnesse **gedyde**.
'and the same year King Egbert led a military campaign in North Wales, and made them humbly obedient [lit. 'did them to humble obedience']

(850–950). *Two of the Saxon Chronicles Parallel, Vol.* 1.
(Ed. Plummer). R 828.1

In (47) the complement of *gedon* is a concrete noun phrase, the object of the preposition *to* in a resultative construction; in (47') the nominal object of the oblique phrase refers to an abstract quality. It is not unjustifiable that such complements could eventually be replaced by entire clauses introduced by *to*, the directional goal of a spatial location or of a change of physical state or quality thus being replaced by the directional goal of a change of psychological state as in the complement subject of (46). The early appearance of the *to*-infinitive complement is also noted in the grammaticalisation of the *have*-causative (Ziegeler 2004b), and is observed by Ellegård (1953: 37) appearing in Middle English texts with complement verbs not only expressing senses of inert cognition or experience. Ellegård (1953) also shows evidence of some biclausal causatives appearing in Old English (some of them classifiable as monoclausal under the present analysis), indicating that the development towards biclausal causatives was not restricted to those containing a *to*-infinitive complement alone. What can be ascertained from the data so far is that at least two construction types served as the source constructions for the development of biclausal causative *do*, the caused-motion construction and the resultative construction, but only one of them would have served as the source for the periphrastic form. It is hypothesised that the perfective, periphrastic form developed from the original resultative construction, having a change-of-state goal, and that the biclausal causative developed separately, from the caused-motion construction, with a spatial or locative goal. The reasons for this are that the causativity in a resultative construction is directed inwards, back towards the causer subject of *do*, while the causativity in a caused-motion construction is directed

away from the causer subject. It is the former construction, therefore, which would lend itself most readily to reanalysis with the subject of *do* becoming the subject of the entire causative chain of events; while in the case of the caused-motion construction, the causativity is directed outwards towards an external participant. The same contrast between constructions is found in the history of Mandarin Chinese causatives, in which the reanalysis of a biclausal serial verb construction using the former lexical verb *bǎ* to become a single clause transitive construction is contrasted with the eventual loss of a competitor, *jiāng*, from the causative paradigm: *bǎ* has causative meanings which are directed inwards towards the initiator of the causal event, while the direction of causativity in *jiāng* is outwards (see Her (1990). As such, the outwardly directed causativity will not reanalyse into a single clause construction.

3.4.2 Developmental paths

The appearance of resultative constructions in Old English but their subsequent disappearance from Middle English would seem to suggest that the only likely descendant of the former prefixed form is that similar to (37), so that the adjectival complement expressing a change of state in the medial NP would be replaced by certain causative-inchoative, or labile verbs, which also express a state change. Apart from these types, which are also quite infrequent according to the present data, the only possible replacement for the resultative is the form illustrated in (41c) in which the infinitive, though not always a labile verb, can be rendered as passive. No clear examples of actual passive infinitives were found in the earlier texts; however, Ellegård (1953: 106) finds a number of such items in *Merlin*, which are generally overlooked in later studies, e.g.:

(48) thow that she **do** the childe to be delyuered

(1400). *Merlin*. 89–23.

Curiously, Engblom (1938: 45) points out a number of examples in which the participle appears without the passive infinitive marker, and in a position adjacent to the auxiliary as in the following:

(49) all **dyd** a-lyght and ther **dyd** reseyvyd... and ther men **dyd** bere her;

(1550–1563). *The Diary of Henry Machyn.* p. 146.

(Earlier examples are also given.) Engblom passes such examples off as leading to emphatic uses later on, suggesting that the emphatic use originated in the pro-verb. However, they could be a reflection of the fact that the infinitive with which *do* co-occurred was frequently rendered as passive, though not always marked as such.

The contrast between active (non-participial) forms and the passive (participial) form in (49) is quite clear – *dyd reseyvyd* having the meaning 'did be received'. All of Engblom's examples in which a participle instead of an infinitive co-occurs with *do* are in the past tense, and only one example has an intervening noun phrase between *do* and the participle. Further evidence of the active-passive ambiguity of the infinitive is found in Ellegård (1953: 106), with the another causative verb, *let*:

(50) the tour.... that Vortiger let make

(1400). *Merlin*. p. 121–2.

where the meaning 'that Vortiger let be made' is obvious. It is clear that during Middle English times, an infinitive co-occurring with a causative verb could often be interpreted either way, as active or passive, regardless of the presence or absence of a passive participle. Thus, although there are few, if any, clear examples of passive participles co-occurring with causative *do*, it seems that there was little need for them in any case. The earliest examples of periphrastic *do*, though, appearing in the surveyed Helsinki data from Middle English, could well have been expressing an ambiguity of voice orientation, e.g.:

(51) he **did** carye grete quantitee of Armure to the Guyldehalle
with which as wel straungers of the contree.

(1384–1425). *A Book of London English*.
Ed. Chambers & Daunt. p. 194.

While the possibility of a single man carrying the armour alone is not excluded, it is more likely that the context would imply that the armour was carried by several persons, and the meaning of the infinitive is passive. Similar examples provide evidence to support this suggestion, see (35), which uses the same verb, and explicitly marks the distinction of voice by means of the marked passive infinitive.

It remains to determine a possible route of development, for both the periphrastic form and for the form appearing in biclausal causatives, based on the evidence obtained so far. The stages that can be outlined may be shown as the follwoing:

(52) Stage 1. In Old and Middle English, a main verb *do* 'put' or 'send' existed in monoclausal structures lexifying caused-motion construction meanings (e.g. 42), and, usually marked with the *ge-* prefix, also conveyed the meanings of 'make' in monoclausal structures lexifying resultative construction meanings (e.g. 44').

Stage 2. Resultative uses yielded to periphrastic uses, via the replacement of the adjectival complement by an infinitive, and the later coalescence of *do* and the infinitive in constructions in which the infini-

tive could be understood as passive and the medial NP was a patient role. Caused-motion uses developed into biclausal causatives via the replacement of their directional complements first with *to*-infinitive clauses in which the medial NP was an experiencer role, and later with the loss of the infinitive marker, bare infinitive clauses with agents as medial NPs emerged.

Stage 3: The early hyperanalysis of resultative biclausal structures (with causative-inchoative, labile infinitive verbs, e.g. (37)) as monoclausal, later generalised to other environments, including ditransitives; e.g. (36).

Stage 4. The reanalysis was followed by a period of grammaticalisation with *do* becoming an auxiliary verb marking mainly grammatical perfective functions in discourse with any verb type. The optional appearance in such functions (e.g. 29) indicates the gradual lexicalisation of residual perfective senses into the semantics of the main verb.

The route of development from the monoclausal causative to the periphrastic auxiliary construction may be mapped as in the example below:

(53)

(a) Resultative path	(b) Caused motion path
(i) X *do* Y + Adjective	(i) X *do* Y to (Location)
> Passive Participle	> to-Inf. (cognition state)
> Labile verb	> Bare inf. (dynamic)
(ii) X *do* v Y (periphrasis – grammaticalisation)	(ii) X (cause) Y v (Z) [suppletion of *do* with other causative verb]
(iii) X v Y (hyperanalysis)	

In (53) is illustrated the expansion from monoclausal caused motion constructions to biclausal ones, in which the hyperanalysis leading to loss of the auxiliary is seen to take place first in the environment of labile verbs. The most likely interpretation of the use of the causative verb with labile verb complements is that such environments provided the optimal conditions for the implicativeness of the complement meaning to dominate, as the medial NP refers to a patient or undergoer that has little or no agency of its own. It is the implicativeness that rendered *do* redundant when co-occurring with a resultative complement. In the meantime, the auxiliary grammaticalised to other environments, where it was less likely to be hyperanalysed as part of the meaning of the main verb. The spread of the reanalysis to other verbal environments in which the hyperanalysis is not possible means that the periphrastic construction remains in the language as a marker of discourse perfectivity for a period before it too disappears from use. It is likely, therefore, that the

infinitive complements that developed out of caused-motion constructions were typical of the causative types found remaining in the East, long after the resultative constructions had triggered reanalysis earlier in the West. This also means that the suppletion of *do* by other causatives (e.g. *have* and *let*) would also have taken place earlier in the West (see, for example, (40)), but more data would be needed to illustrate the process in detail sufficient to make a stronger claim. The patterns represented here an outline hypothesis, based on the principle of semantic continuity with older, monoclausal causative forms in Old English.

The original periphrastic structure, then, must have retained some of the semantics of its former resultative uses from which it grammaticalised, and it is suggested by Van der Auwera (1999) that the early periphrastic constructions were indeed marking accomplishments, as previously observed by Denison (1985). Such accomplishment meanings can develop out of *have*- and *get*- causatives, as Denison illustrates (as in *I got the work done*), so it is quite feasible that early uses of the periphrasis still bore similar such semantic traces. Van der Auwera also notes that in Persian, accomplishment meanings can develop out of causatives. However, the later uses of the auxiliary did not always express accomplishment, but appeared to serve nothing more than a discourse-marking function of perfectivity. Thus, lexical perfectivity grammaticalised to the environments of discourse perfectivity.

3.5 Summary

As noted above, the number of causative-inchoative, labile main verb types co-occurring with the auxiliary *do* in the EME part of the Helsinki Corpus is very small, and the rare occasions in which *do* does occur are most likely anomalies. This is because such verb types will have most readily sustained reanalysis, resulting in the redundancy of *do*. In the present analysis, it is believed that the changes which created a seemingly redundant auxiliary out of a causative verb were simply the result of a surface reinterpretation of a causative construction in which the intermediate agent was an inanimate patient, or one which could not have much agentive control over the action expressed in the complement clause. This could take the form of either (i) a biclausal structure with a labile infinitive verb or (ii) a causative-resultative structure in which the complement was a participle; in both cases, the complement expresses a change of state and has a Patient/Undergoer subject. It is not clear how frequent the latter construction was in the data, but the ready interpretation of infinitives at the time as equivocally passive or active could create a resultative sense in an auxiliary + infinitive construction as well. The reason that *do* appears 'redundant' or 'empty' to present-day observations is because in present-day English the verbs with which *do* formerly co-occurred now incor-

porate the semantics of causativity or perfectivity as entailments in their present lexical meanings. From the time of hyperanalysis in resultative complements, the pathway of grammaticalisation is understood more as a receding of uses than an expansion – the environments in which it appeared are gradually 'peeled away', one by one, eventually leaving only a pleonastic form with a textual, discourse function, for expressing stylistic nostalgia in certain contexts or for marking aspectual opposition to the increasingly durative Progressive aspect. The form was already not obligatory in main clause discourse functions in Early Modern English, as indicated in some of the examples (e.g. 29), and in some subordinate clauses its disappearance may have been influenced by the expansion of functions for the *have* (perfect) anterior, possibly in competition with *do* at the time. Other reasons for its gradual recession in affirmative, declarative clauses might have been social reasons, as pointed out by Nurmi (1999), or the expansion of the distribution of the Progressive, the default imperfective aspect of the present tense.

Furthermore, if we are to consider again the question whether periphrastic *do* ever reflected an aspectual category as questioned in Chapter 1, or English ever boasted a perfective aspect, one could not suggest from the findings of the last two chapters that a clear perfective-imperfective grammatical division ever existed, though there are clearly aspectual functions for *do*. However, it is seen from the data that at certain periods in the history of English, a marked discourse-perfective function and a marked imperfective function appeared, albeit not coinciding as neatly as they do in Slavic languages or in Chinese languages. The question over the development of a perfective from causative sources is not a problem, from the results of the present study. The perfectivity that appeared was clearly highly grammaticalised to the point at which it marked the perfectivity of discourse functions (textual functions) and not only the perfectivity of facts reported by the speaker (propositional functions) as expressed in present tense uses. The grammaticalisation pathway so defined is thus in accordance with Traugott's (1989) pathway of semantic change: propositional > textual > expressive, the final stage now illustrated in the residual use of periphrastic *do* in present-day English to express the speaker's emphasis and conviction. In these ways, there is an argument for proposing a perfective aspect in the history of *do*, however redundant or unrecognised it may appear to present-day observations.

CHAPTER 4

Proximative aspect

In the previous chapter, it was shown that the auxiliary *do* had a role to play in the history of English as a marker of perfective or anterior aspect in discourse. In present-day (standard) English, the presence of perfective aspect is virtually unobservable, as past tense marking subsumes most grammatical perfective functions, and anterior aspect is often expressed by the perfect. However, the presence of lexical perfectivity clearly affects a number of grammatical environments. In the present chapter, the semantic features of lexical perfectivity will be observable influencing the meanings derived from what are known as approximating or proximative adverbs such as *almost* and *nearly. Almost* and *nearly* have been termed 'approximators' by Quirk et al. (1985), and items with similar functions in African languages were termed 'proximatives' by Heine (1994b, after König 1993). Heine describes proximatives as an aspectual category in themselves, defined as marking a temporal phase which is located close to the boundary of the situation described by the main verb (1994b: 36). In the present chapter, it will be seen that such a description shades easily into that of a type of modality, creating counterfactual implicatures in past tense uses, since proximity to a main verb situation is proximity to factuality. The definition is proposed in Chapter 1 of aspect as a metaphorical means of abstracting in physical action or inaction the structural contours of concrete, spatial phenonema, and it is equally represented in the description of the proximative as an aspectual category: proximity to an action or state implies an association with it which is readily conceivable as a spatial metaphor. Thus, in describing proximatives as an aspectual category, two approaches must be accounted for: the semantics of proximative aspect itself, and the other aspectual conditions of the environment in which proximatives occur.

The description of proximative items is not without problems, though, as they are known to carry meanings suggesting the negation of their predicates; e.g. *she almost had an accident* is taken usually to suggest that she did not have an accident, but nowhere in the meaning of the sentence is this actually asserted. Because of such problems, it is considered that more attention should be focussed on the place of such adverbs on an implicature scale of the nature of Horn (1972), thus involving a pragmatic explanation of the senses of negation. From first appearances it would seem that there is no reason why proximative adverbs could not ap-

pear on such a scale, parallel to quantifiers such as *some, many, most,* and *all.* The function of such items appears to be comparable to that of the quantifiers in restricting a stronger predication, or in grading degree in some adjectives and other quantifiers. However, there emerges a clear difference: quantifiers like *some* conversationally implicate the negative of a stronger proposition, by the observance of the Gricean Maxim of Quantity 1, while *almost* (and those akin to it) have been believed to contain negative entailments, for the reason that the relevant inferences are non-defeasible, making them unlikely candidates for implicature scales (see, e.g. Atlas 1984; Hitzeman 1992). Disagreement arises from the fact that, as noted by Sadock (1981: 257), the negation of the stronger proposition that *almost* restricts is not part of its semantic content, and yet this counterfactual proposition, in the majority of cases, cannot be cancelled.

The present chapter aims to resolve the paradox, analysing the meaning of *almost* in terms of a counterfactual marker, and offering an aspectual account by which this and many other counterfactual meanings may be explained. The definition of counterfactuality is to be understood here (as defined in Ziegeler 1994) as determined only by speaker knowledge: a counterfactual utterance can be made only in cases in which the speaker has full knowledge of facts contrary to the hypothesised proposition; in all other cases the meaning is merely hypothetical. Occasionally, the factual premise will be expressed in the discourse context of a counterfactual utterance, e.g., in conditionals: *P... (because) if not P, not Q* (see Akatsuka, 1997, for examples of such types of counterfactual conditionals in which the speaker's knowledge of contrary facts corresponds to the desirable outcome of a past situation). But the explicit rendering of the factual grounds for uttering a counterfactual expression are neither necessary for the grammaticality of the expression, nor always present, as illustrated by Comrie (1986), amongst others, and counterfactuality in its most frequent expression is therefore implied rather than asserted (e.g. in the protases of counterfactual conditionals (Lewis, 1973)). The speaker's knowledge of contrary factual information is therefore not a part of the expressed counterfactual utterance, and needs to be worked out in the discourse by the hearer.

A counterfactual implicature, then, is a conversational (or conventional) implicature derived from the contextual assessment of the speaker's knowledge of facts to the contrary of a hypothetical utterance. In the case of counterfactual conditionals, one of the most frequently-cited grammatical environments in which counterfactuals may be found, the premise underlying the utterance of the counterfactual is generally believed to be factual. Given an example such as, *If it had rained, the picnic would have been cancelled,* the factual premise is usually taken to imply that it had not rained, and the picnic was not cancelled; i.e. the speaker has factual knowledge of weather conditions to the contrary of those implied in the hypothetical utterance. However, the hearer's assessment of the speaker's

knowledge of the facts supporting the conditional hypothesis is only an implicature, since a conditional does not contain a truth-assertion. It is therefore the sum of both shared world-knowledge (whether or not the picnic was held, if that is known) and grammatical and morphological clues that aid in the hearer's evaluation of the factual support (e.g. the use of past time reference as opposed to present or future, as will be seen later in the paper). A counterfactual implicature, then, is assessed by the hearer from grammatical indicators and context and it is this type of implicature which will be shown to be relevant to the meaning of *almost* and other proximatives.

The argument for a counterfactual implicature analysis for *almost* will be supported by revealing a predictive function for proximatives, similar to that of certain modal verbs found in conditionals and other counterfactual expressions; hence the aspectual perception of an association with the main verb is readily interpretable as a modal prediction based on temporal proximity. This is important for understanding the role of aspect in the aspect-modality interface, as will be discussed later. The fact that prediction is part of the meaning of *almost* opens to question the possibility of a negative entailment contained in the meaning: it remains to ascertain whether a prediction analysis is consistent with an entailment analysis. Furthermore, it will be also shown that in some other languages, equivalent functions are seen to be grammaticalised, and that the lexical sources are frequently the same sources as those which may grammaticalise into predictive future markers crosslinguistically, i.e. volition verbs. As grammaticalisation usually proceeds by the strengthening or conventionalisation of conversational inferences (see for example, Traugott 1988), the emergence of such functions in other languages must be considered as related to pragmatic factors. This does not necessarily suggest that the function of *almost* in English is similarly grammaticalised; however, an overview of historical data reveals that some grammatical environments feature more prominently than others, e.g., as late as the Early Modem English period, the adverb appears to have occurred mainly with time-stable predicates such as quantifiers or adjectives and participles, rather than punctual verbs used in the simple past (see Section 4.2.3.1). These historically earlier environments are less likely to produce inferences of counterfactuality, and are more likely to sustain a partial reading of their semantics.

Since our definition of a counterfactual implicature predicts the role of the grammatical environment, another factor to be considered is whether co-occurrence conditions will affect the interpretation of *almost*. In the first study (4.4), a small number of English native-speaker intuitions are used to assess the grammatical distribution of *almost* in order to investigate whether contradictions, indicating entailments, can be found in all environments and for all speakers. In 4.8, the same study is repeated using native speakers of a genetically-unrelated language,

Mandarin Chinese. It will be shown in data from two separate studies in two different languages that the negative inferences assumed to be part of the meaning of approximators are actually strong counterfactual implicatures, their strength determined by means of a Principle. The Principle referred to is the Counterfactual Implicature Principle (see also Ziegeler 2000a; 2000c): this requires that the specificity of the factual support for a counterfactual utterance will relate directly to the strength of the implicature itself, and to the greater difficulty of cancelling the implicature. The Principle is hypothesized to apply to any counterfactual situation, including conditional constructions. When it does, the use of past or perfect morphology, first person subjects, and negatives, are among a cluster of prototypical grammatical or contextual indicators which were shown in Ziegeler (2000a) to increase the conceptual specificity of the utterance, thus allowing the hearer stronger inferences of the factual premise on which the counterfactual implicature was drawn. The co-occurrence of proximative aspect interacting with aspectually bounded perfective predicates increases the strength of the counterfactual inferences obtainable, thus revealing a close parallel with modal forces.

4.1 Scalar implicatures and modality

In order to understand the interaction between proximative aspect and counterfactual modality, it is necessary to consider the role played by scalar models of modal functions. Implicature-inducing (Quantity) scalar values were defined by Levinson (1983: 133, following Horn 1972, and Gazdar 1979) as a set of items of the same grammatical category or function which could be arranged in a particular linear order of semantic strength or informativeness. Scalar implicatures are defined as the relation existing between one value and other weaker members of the same set, such that if a speaker asserts a lower or weaker point on the scale, s/he implicates that a higher or stronger point does not obtain, even though it may be quite consistent with the truth of making the weaker assertion.[1] Moreover, the assertion of a stronger point entails the weaker point, but not vice versa. Because of the grading of items in this way, the relationship between a given item on a scale and possible alternative members of the category to which it belongs is one of merging values rather than contrasts, and the individuation of such values is therefore only pragmatically defined. The conceptualisation of merging values involves a continuum-like progression from weaker to stronger elements on the

1. Hirschberg (1991: 57–59) suggests that the description of linear scales originated by Horn (1972) and Gazdar (1979) could be supplemented with additional measures such as part-whole values, type-subtype, set-subset and set-member relationships.

scale, so that there is a relationship of inclusion of weaker values by stronger values, not exclusion. Thus, it must be emphasized that the assertion of a weaker point on a scale is *not contradictory* to a stronger point (any more than the assertion of a stronger point is contradictory to a weaker point), and may often exist in a part-whole relation with it e.g., A: *Did you finish the book?* B: *Half of it I read* (Hirschberg 1991: 108), in which B's response that s/he has only read half of the book negatively implicates reading the entire book. Similar relations are expressed in the following (typical) example:

(1) Some of the people left early.

(2) Some of the people, in fact all of them, left early.

In (2) the fact that the stronger quantifier *(all)* is not contradictory to the weaker quantifier *some* is clearly illustrated in the cancellation of the implicature ('not all') associated with (1). The implicature may also be suspended (Horn 1972) by expressing the possibility of a stronger assertion:

(3) Some of the people, if not all of them, left early.

although, as indicated by Hirschberg (1991: 28), suspension of a conversational implicature does not help to distinguish it from conventional implicatures, or presuppositions. In the case of suspension, the speaker is committed to neither the truth nor the falsity of the proposition, while in the case of cancellation, the speaker is committed to the falsity of the proposition (Levinson 1983: 115, fn., following Horn 1972). However, while a suspension may act on either a conversational or a conventional implicature, a cancellation may only act on a conversational implicature. Horn (1985: 129) lists this feature as amongst a number of other distinguishing features which may serve to differentiate conversational from conventional implicatures, including predictability (for conversational but not conventional implicatures), detachability (in the case of conventional implicatures but not conversational; i.e. they may be substituted with a synonym not containing the implicature), the relation of conventional implicatures to presuppositions, not held by conversational implicatures, and calculability, available for conversational but not conventional implicatures. Grice (1975: 44) illustrates only one example of a conventional implicature: *He is an Englishman, therefore he is brave,* in which the conventional implicature, associated with *therefore,* is the meaning 'it follows that'. This is not related to the truth conditions of the item, as cowardly Englishmen can still be found. However, this part of the meaning cannot be cancelled without contradiction:??*He is an Englishman, therefore he is brave, but it doesn't necessarily follow that he is brave.* Conventional implicatures are often associated with highly grammaticalised items; for example, the definite article carries the conventional

implicature of uniqueness (see, e.g. Allan 2001) in examples such as: *She walked into the room. The window was open*; where *the window* conventionally implies there was only one in the room. In the present study, it will be seen that cancellation of the implicatures associated with *almost* is possible, but that the capacity to uphold cancellation varies with co-occurrence conditions related directly to the aspect of the predicate they quantify.

Apart from quantifiers, other candidates for implicature scales include modal lexicalisations such as *necessarily, possibly,* verbs such as *know, believe,* modal verbs, e.g. *must, should, may,* and conjunctors such as *and, or* (Atlas and Levinson 1981: 32–33). Other categories include those more typically represented as gradable: adjectives such as *hot, warm, lukewarm,* and verbs exhibiting degrees of intensity; e.g. *love, like.* The types of implicature discussed by Atlas and Levinson (1981) were those in which the expression of a weaker argument (*W*) implied the negation of a stronger counterpart (*S*), and its converse, in which the negation of a stronger term implied a weaker counterpart. Both types were correlated with Grice's (1975) first Maxim of Quantity (Q1, according to Levinson 1995), which stated that it was uncooperative not to provide as much information as was necessary for the purposes of the situation. Thus on hearing (1), a hearer would consequently believe that any more information (e.g. *all)* was either unknown to the speaker or considered false by the speaker, in the assumption that the speaker was observing this maxim. Grice's second Maxim of Quantity (Q2, according to Levinson (1995)) expresses the opposite requirement: 'Do not make your contribution more informative than required' (Grice 1975: 45). Thus, a Q2 interpretation of (1) would involve the hearer extending the upper bounds of the quantified expression to infer that more information was available but was not expressed because it was considered by the speaker to be redundant. This would mean that it was quite likely that more people left early, but that that information was not needed for the purposes of the conversation. Grice's Quantity 1 and Quantity 2 maxims were subsumed in Horn's (1984) introduction of the Q-Principle and the R-Principle respectively, and these terms will be referred to henceforth.[2] Horn's Q-based implicature is hearer-based, and licenses the interpretation *W* implicates ~*S* (and ~*S* implicates *W*), the R-based principle being associated with the interpretation, W implicates S. The latter is the interpretation found in examples such as:

(4) She was able to solve the problem.

2. The Q-Principle took account of both Quality and the R-Principle, and included Grice's Manner 1 and 2 as well as Quantity 1 maxims in its description, while the R-Principle, taking account of the Q-Principle, included Grice's Relation, Manner 3 and 4, as well as Quantity 2 (see Horn 1989: 194, for a revised description).

implicating

(5) She solved the problem.

(Horn 1984: 21), and is that most frequently found in the grammaticalisation of modal verbs (Traugott 1989: 51, fn.). The development of senses of prediction in the use of a modal, illustrated in (4) using a semi-modalised expression, has been repeated many times over in the historical progress of deontic modals such as *may, shall, will* and *must* to become future projecting or epistemic in meaning, and this development was in part motivated by the exploitation of R-based implicatures. The hearer, on interpreting the original meanings of ability, power, obligation, and volition in these verbs, was prepared to read into the meaning an additional implicature that the future realisation of the predicated action of the modal complement was later to take place (Traugott 1989). The R-based implicature determines that by saying *p*, the speaker implied 'more than *p*' (Horn, 1984: 14), and 'more than *p*' in such cases infers that the action or situation in the complement of the modal did in fact take place.

In the understanding of modality as a scalar item, it is possible to consider the modalised utterance as a weaker version (*W*) of a non-modalised utterance (*S*), which is stronger in truth value and therefore higher on the scale of factuality; e.g. *She may be coming* is factually weaker than *She is coming.* The complement of the modal is therefore the stronger proposition (*S*) that the modal (*W*) quantifies. In an R-based interpretation, the implicature is towards the positive realisation of the complement (*S*) of the modal quantifier (*W*); the speaker's epistemic assessment of the situation is extended to imply its realisation, confirmed at a later time. Thus in the deontic use of the modal, *She may come* ('she is permitted to come') the R-based implicature further implies that she in fact is expected to be coming at a later time (an epistemic evaluation). The provision of information regarding the likelihood of her coming is factually reduced by the use of a modal verb, producing an implicature of the factual expansion and hence positive prediction of the complement proposition.

However, in the interpretation of counterfactual implicatures from modal utterances, there is an implicature of the negative prediction of the complement: this could be assumed to be related to the exploitation of Horn's Q-Principle ('Make your contribution sufficient... say as much as you can' (1984: 13)), since such implicatures suggest that anything which is not stated in the utterance is held to be untrue (implied as counter-to-fact), or not known to be true (implied as hypothetical). Thus, an utterance such as *She may be coming* - as a factually weaker expression - may also be likely to implicate that it is unlikely or at least uncertain that (*S*) *She is coming.* It is hypothesised, then, that counterfactually predictive implicatures, like noncounterfactually predictive implicatures, can also be ranked

on implicature scales, in which the modality provides quantification over the factuality of its complement.

The question, though, is what the factors are which determine which of the two types of Quantity implicatures will take precedence. Given that the R-Principle of Horn (1984) states: 'Make your contribution necesssary... say no more than you must' there is an apparent correlation between the quantity of information supplied and the level of predictability of the proposition quantified by the modal. A modal expression is less informative than a non-modal one, and implies greater predictability via the exploitation of R-based implicatures. However, via the tenets of the Q-Principle, a more strongly informative modal expression would be expected to supply lower levels of predictability; it is questioned therefore, how one modal expression can be more informative than another. It is necessary to define 'quantity of informativeness' with respect to modal expressions in order to predict the presence of either R-based or Q-based implicatures. In such cases the derivation of the implicature type may be unrelated to the length or complexity of the expression, which Horn (1984: 22) suggests as a means of determining whether Q-based or R-based implicatures will prevail. *She may be coming* can be interpreted as either a positive prediction or a negative (or uncertain) prediction, and both interpretations of the utterance are obtainable from the same expressive quantity. Thus, there must be an independent means of measuring information quantity besides length of utterance.

It could be suggested that the addition of past tense or perfect morphology to a modal expression increases the information quantity, and hence reduces the level of predictablity of the complement of the modal verb. This is especially apparent in the differences of predictability between forms such as *She may be coming, She might be coming,* and *She may have been coming,* in which the last form implies prediction pertaining to a time before the moment of utterance. However, in some constructions using semi-modalised expressions, the addition of past morphology does not necessarily suggest a lower level of predictability, as illustrated in (4), which usually implies (5). Therefore, there is no *necessary* correlation between use of past tense and the presence of Q-based implicatures. The English modal *would,* a past tense or preterite form of *will,* can often be associated with past positive prediction in narrative use, e.g. *Ten years later he would become president of the republic,* in which the prediction is seen as posterior to a past point of reference. Past positive predictions can also occur using *would have + V-en,* e.g., *The ancient Egyptians would have made this inscription,* in which a counterfactual rendering ('but didn't') is unlikely.[3] Thus, the addition of perfect aspectual morphology to the

3. The use of *would have V-ed* in such expressions is epistemic, and could be dialect-specific.

modal form does not always increase the likelihood of Q-based (counterfactual/ hypothetical) implicatures either.

An informationally more specific correlate to (4) might be *She had the ability to solve the problem,* which produces, by comparison, Q-based implicatures to the effect that any other information outside what is supplied is not true, or not known to be true or false.[4] Horn (1984: 22) describes such examples as marked, i.e., 'relatively complex and/or prolix', but it may not be only the formal prolixity of the expression which designates them as marked: semantically such expressions appear more complex, providing more specific details, and hence, a higher level of information content. Therefore, for modal expressions appearing on quantity scales, more information-*specific* expressions appear to be related to Q-based inferences, and as would be expected, with high hypotheticality; the hearer assesses a more informatively-specific expression as the limits of the speaker's knowledge, and therefore any further information is assumed to be either false or not known to be true or false. Maximal information quantities in modal expressions may therefore be a sum of the conceptual specificity of a particular utterance, and may not be related to expressive quantity at all.

What is not clear at this stage is how to distinguish unequivocably 'maximal' from 'minimal' information specificity, and whether such distinctions can be determined in a less than arbitrary way. In the following sections the distinction will be seen to be indicated grammatically, and therefore provide a basis for the prediction of Quantity implicatures relating to modal utterances and proximatives. The meaning of the proximative quantifier *almost* will be discussed as illustrative of the way in which such a distinction can be made, and it will be shown below that *almost* and other proximatives are eligible candidates for admission to Quantity scales.

4.2 The meaning of *almost* and other proximatives

4.2.1 Prediction

According to Sadock, it is possible to consider the negative inferences in the predicate of *almost* as a generalized conversational implicature based partly on its meaning, rather than an entailment (1981: 261). If this is the case, then it will seem appropriate to include *almost* as a candidate for a Horn-scale (as described above) quantifying the factuality of the predicates in which it is found. Sadock admitted that the cancellation of such an implicature out of context would be difficult, and

4. The differences in interpretations of past ability expressions with regard to Quantity implicatures have been previously tested on a number of informants in a brief survey *(Linguist* 12/3/98; http: //www.emich.edu/-linguist/issues; see also Ziegeler 2001).

not parallel to the kinds of cancellation applicable to *some~all* examples on the implicature scale of Horn (1972), but maintained that this was mainly because of the strength of the implicature. In order to provide evidence for the presence of an implicature and not an entailment, Sadock presented a number of cases. One was the use of the conjunctor *but* in examples such as:

(6) He almost, but didn't quite, win the race.

This use is compared with the use of truth-functional equivalents such as *and:*

(7) ?He almost, and didn't quite, win the race.

(7) is considered inappropriate since, unlike *but* in (6), the use of *and* adds nothing to the meaning of *almost.* Sadock (1981: 264) therefore assumed that *almost* implies the denial of his winning the race, and *but,* used in (6), is said to reinforce the implicature, adding more information. However, the conventionally implicated meanings in *but* suggest that the conjunctor typically introduces a contrastive statement, so in (6), the possibility of his winning must also be contained in the meaning of *almost* for such statements to be appropriate. Sadock does not discuss this possibility, but *but*-clauses offer firm evidence for the implication of predictive senses in the proximative adverb.

However, the role of *but* to introduce a reinforcing clause has been discussed by Horn (1991) as informationally redundant and not a means of distinguishing entailments from implicatures. *But* is held to mark rhetorical contrast, in the positing of the initial clause as a concession to be subsequently affirmed by the *but*-clause, e.g.:

(8) It's unfortunate that it's cloudy in San Francisco this week, but cloudy it is - so we might as well go listen to the LSA papers (Horn, 1991: 325).

Horn cites Anscombre and Ducrot (1983) in suggesting that there is no redundancy due to the presence of arguments which produce contrasting conclusions – in (8) one possible contrast could be between the desired, but non-actual state of the weather (clear skies), and the actual state (cloudy), which may further lead to contrasting conclusions of the speaker's planned activities with some unplanned alternative. In such cases, the use of *but* counters the speaker's propositional attitude of the desire for an opposite outcome. For other examples, such as *The milk train doesn't stop here anymore, but it used to* (Horn 1991: 322), the concessive element is more apparent and seems to subjectify the utterance to the speaker's attitude: *(I concede that)* 'the milk train doesn't stop here anymore', *(but it used to).* In other words, the contrast expressed by *but* in such expressions is outside the propositional content of the utterance. In the case of *almost,* the concession of the speaker and the subsequent affirmation may also explain the *but-clause: (I concede that)* 'he almost won the race' *(but he didn't quite win it).* However, even the rhetorical

use still indicates that there is an element of prediction contained in the discourse context that the speaker feels it is necessary to refute: the imminence of his winning the race was sufficiently predictable and close at hand to *require* argument.

Horn (2002), maintains his previous position that adversative clauses, as in (8), can represent a rhetorical argumentative stance on the part of the speaker. However, similar instances have also been categorised as concessive uses by Umbach (2005); e.g.;

(9) It was raining, but Bill went for a walk.

Umbach goes on to describe such uses as 'incausal'; that is, they express the reverse-causality relationship, *P although/in spite of Q*; the *but* conjunct is therefore the *but* of concession. In Horn's (2002) account, there need not be even so much as a denial of expectation:

(10) It's odd that dogs eat cheese, but they do.

If there is a denial of expectation, it is only the concession (represented in *It's odd*) in the first clause that is being denied by the conjunct. As in (8), the adversative conjunct in (10) introduces the complement of a factive clause which embraces the speaker's attitude towards the proposition (*it's odd/unfortunate that X*;). The contrast expressed in (10) is thus between the content of the proposition (*that dogs eat cheese*) and the speaker's subjective evaluation of the content of the proposition (*Its odd*) which may question its truth, or its undesirability, i.e. it is outside the propositional content of the clause itself ((10) can be reduced to *It's odd, but dogs eat cheese*, illustrating more clearly the contrast between the proposition and the speaker's evaluation of the proposition). While this may explain the contrast shown in such examples, it remains to be determined, though, whether adversative conjuncts co-occurring with *almost* (as in (6)) similarly contrast propositional with extra-propositional material in every case. If not, the contrast expressed is still between the predictions implied in the complement of *almost* and the contradictions raised by adversative clauses indicating an unexpected turn of events.

Additional evidence for the possibility that the *but*-adversative clause contradicts expectation, or prediction, is provided by Malchukov (2004), who follows Švedova's (1980) and Sannikov's (1989) categories for adversatives in Russian: (i) denial of expectations; (ii) contradicting evaluations, and (iii) restrictives, often called preventives or antiresultatives, all expressed using the conjunction *no*, and notes that semantic opposition can be expressed by another conjunction, *a*. Concessives are categorised under the first type (denial of expectation), and 'argumentative' under the second; however, the third type refers to a situation in which

the completion or realisation of an event once initiated, and expressed in the first conjunct, has been refuted by the second conjunct (Malchukov 2004: 180); e.g.:

(11) *On pobezhal, no upal*
he started.to.run but fell
'He started to run, but fell'

The availability of such a category presents problems for an analysis of proximatives in which the contrastive clause is held to be only a reinforcement of negation in the first (proximative) conjunct (as suggested in Sadock (1981)); (11) presents a situation similar to one expressed by proximative adverbs, in which the contrast shown is between an action commenced but not completed, and an adversative event which elucidates why it was not completed. Malchukov also noted the use of a mirative marker which is interchangeable with the adversative conjunction in the same example (2004: 187), mirative functions referring to those expressing unexpected result. In Siberian Yupik, the same conjunction used to express denial of expectation is used to also express preventive as well as mirative functions (2004: 188), but in Amazonian languages, an adversative conjunction expressing the 'antiresultative', also termed the 'frustrative' by Everett (1986, cited in Malchukov 2004: 194), is claimed to be very frequent. Malchukov also states that the antiresultative, sometimes called the avertive, is used in conjunction with clauses expressing meanings such as 'X almost did V', 'X was about to do V', 'X wanted to do V', and cites Kuteva (1998) as one particular study in which such grammatical functions are isolated (see discussion in section 4.2.3.1). The fact that such categories exist in other languages which are distinct from those in which adversatives express a rhetorical, argumentative contrast, is sufficient evidence to suggest that there may be similar antiresultative functions of *but* in English, and that they should not be confused with rhetorical contrastive functions just because there is only one form available to express what may be grammaticalised as distinctive functions in other languages.

Furthermore, the predictions associated with *almost*-clauses in English may be cancelled by other elements besides *but; when* (temporal) clauses can also cancel the predictive strength:

(12) He had almost won the race when he slipped and fell.

In (12) the use of a *when* clause cannot be said to be related to the speaker's attitude towards the proposition, as the speaker's subjective attitude generally co-occurs with the illocutionary act and cannot be subordinated to any particular temporal variation. The use of *when*-clauses not only adds more information which is non-redundant to the description of the scene, but reports the interruption of a goal-directed activity, in (12) cancelling the implied prediction of the race being won. This func-

tion of the *when*-clause is clearly that of the preventive or antiresultative described above for other languages. Admittedly, the element of contrast in such examples is obscured by the fact that the more prominent function of the *but*-clause, and in fact of any conjoining clause, appears to be to add more information to the initial proposition. However, the focus on the negative inferences contained in *almost* and their likely conventionalisation also contributes to the obscurity of the contrastive function of such clauses. This will be revealed more clearly in section 4.5.

Negatives used with *almost* also contain strong inferences of prediction, since a negative is basically uninformative if it is not linked to a corresponding positive assertion relevant to the context – negatives are marked in this way (Horn, 1989: 173). Thus,

(13) He almost didn't make it

suggests a strong inference to the counterfactual view that he did make it, because the act of denying suggests that there is usually a positive proposition or assumption in the context to be denied. This reinforces the evidential basis for making a past prediction. It may be argued at this point that prediction should not apply to past contexts at all, since facts about the past are usually known, but if it does not, then it may be difficult to describe the function of a counterfactual conditional (which usually presents itself as a modified past prediction) in any other way. Furthermore, it is not co-operative to utter a sentence containing *almost* without some commitment towards knowledge of the occurrence or non-occurrence of the event referred to in its predicate (if the predicate refers to an event): how do we know *what* almost happened, if it did not happen at all, without engaging the possibility of predicting the event? In such cases, *almost* may be substituted with other predictive markers, e.g. *going-to* futures: *He almost won~was going to win the race* (see also section 4.2.3 for crosslinguistic examples of predictive markers which have an additional function of marking proximity).

The term 'prejacent' has been used by Horn (1996) in reference to the use of restrictors such as *only* to describe what remains of the proposition after *only* has been taken out, i.e. in *Only God can make a tree* the prejacent would be *God can make a tree* (1996: 1). But there is no implicature of goal-orientation in such expressions which would compare with the inferences associated with *almost*-propositions and would enable prediction to be a suitable description of the function of *almost*. This is especially relevant when *almost* is seen to contrast with its polar opposite, *barely*. Scope does not allow for a fuller discussion of the relationship between these two items; however, in a comparison provided in Horn (1996: 21), the predictive senses associated with both items are clearly apparent: *My printer is almost functional!* is regarded as 'good news', while *My printer is barely functional!* is regarded as 'bad news'. This is because of the predictions involved in either case

– towards the positive pole in the case of *almost,* and towards the negative pole in the case of *barely.* In past time reference, the polarity does not shift, but the prediction associated with *almost* often becomes a negative one, subsuming the underlying positive prediction *and* its cancellation: *My printer was almost functional (when the paper jammed again).* The conjoining clause not only adds more information to describe the situation, but also expresses the speaker's disappointment, suggesting that the expected outcome was more optimistic than the actual one. Whether or not the prediction is positively or negatively oriented will be discussed further below.

Pons Bordería and Schwenter (2005) describe the positive polar orientation of the present tense use of *almost* in: *My printer is almost functional!* as merely 'argumentative' orientation, since, in their account, the polar orientation of *almost* is always negative. It was not explained, though, why the argumentative orientation is positive in the present but negative in the past. A clearer account in the form of an R-based implicature (*W* implicates *S*) for present time reference and a Q-based (*W* implicates ~*S*) for the past tense equivalent is more coherent an explanation, placing ⟨*almost P*, *P*> on an implicature scale of Quantity. As noted above, the quantity or specificity of information is greater in the past when the speaker is more likely to have received evidence of the realisation or non-realisation of *P*. Such an explanation places the entire category of proximatives on a parallel with particular modal verbs in English and other languages, in which a proximity to *P* may stand for *P* itself, or for *not P*, depending on the quantity and specificity of information in the utterance. A similar phenomenon has been described in earlier studies as a VIRTUALITY FOR (NON)ACTUALITY metonymy (see Ziegeler 2000b; Panther and Thornburg 1999: 343).

It is interesting to note that all past time reference uses of *almost,* whether positive or negative, can be appended with a conjoining clause introduced by *but,* for example:

(14) He almost didn't make it, but there he was, sitting in the front row.

As well as adding more information, the conjunctor can be used in most cases to suggest a contrary turn of events, e.g:

(15) She had almost sung Strauss's 'Four Last Songs', but she broke into a sneezing fit before she had finished.

Although Sadock refers to the use of *but* to reinforce the implicature of negation, it is questionable whether an implicature that is strong enough to be considered by some accounts to be an entailment actually still needs reinforcing. Even under Horn's (1991) argument of rhetorical contrast, the use of *but* in (14) and (15) to conventionally implicate contrast, adversity, or unexpectedness is unlikely if the

inferences surrounding the use of *almost* are that the predicated event did not occur anyway – just where does the contrast lie? If anything, the conjunctor in (14) and (15) should be not *but,* but *because:*

(16) ?She had almost sung Strauss's 'Four Last Songs', because she broke into a sneezing fit before she had finished.

However the addition of a clause elaborating on the reason why she had almost finished singing seems to imply that she set out with the intention of almost completing, rather than completing, the concert, something which is inconsistent with the explanation of her breaking into an involuntary sneezing fit before she had finished. If the counterfactual inference associated with *almost* were an entailment ('she didn't finish'), then there should be no reason why a causal explanation of the kind shown in (16) should not be acceptable. Similar examples in which the action predicated by *almost* is anomalous with clauses of reason include, for example:

(17) ?Jackie almost toppled off the ledge, because she saved herself.

(18) ??Since she saved herself, Jackie almost toppled off the ledge.

The inferences of negation associated with *almost* are simply not strong enough to support a causal link with the proposition in the subordinate clause. If *almost* in (17) and (18) entailed that she did not topple off the ledge, the causal explanation should be sufficiently relevant to follow as a matter of course.[5] This is another reason why it is proposed here that *almost* only implicates negation, rather than entails it.[6] The use of causal clauses as in (16)–(17), however, does not rule out the possibility of the implicature being a conventional implicature: the (conventional) implicatum of *even,* for example, does not permit subordination to a *because-clause* either, i.e. *Even John can use a Macintosh, because it's so user-friendly* does not mean that others can use one because it's user-friendly, or that it is unexpected

5. This may be confirmed by the fact that, given an entailment of the kind: *Sam is a bachelor* entails *Sam is unmarried,* it can be asserted that *Sam is a bachelor because he can't afford to get married* does not violate any restrictions on transitivity. However, it could be argued that *because* relates two propositions that must be in the text, and that since 'not P' is not expressed in the text in (17), the use of *because* is infelicitous anyway. But such conjunctions appear to be useful in linking some propositions which are not necessarily expressed, e.g. *You can answer the telephone, because I'm in the bathroom* (the speaker's being in the bathroom is not a logical cause for the addressee to be able to answer the telephone). Similar examples were discussed by Rutherford (1970), using other clause conjunctions such as *though, unless, whether,* and 'speech act' conditionals, and also by Davison (1975).

6. The reinforcement of the implicature may be better supplied by *only,* rather than *but,* as in *Jackie only almost toppled off the ledge, because she saved herself* (this also requires contrastive stress on *almost).*

that John can use one because it's user-friendly.[7] There are, then, grounds to consider the possibility that *almost* can be described as a conventional implicature (as considered by Horn 1996).

Therefore, in (15), additional information in the clause introduced by *but* presupposes a situation in which the possibility of finishing singing was imminent, and *but* implies an unexpected turn of events. For this reason, it is likely that R-based implicatures are present, suggesting that the expected event was sufficiently close at hand and inevitable to permit an expression of denial. Consider:

(19) She had almost sung Strauss's 'Four Last Songs', but she did not finish.

If the *almost-clause* entails that she did not finish, then the additional information provided in the clause introduced by *but* is redundant *(*She did not finish singing Strauss's* 'Four Last Songs' *but she did not finish).* The use of *but* is odd when there is no contrast expressed in the second clause, and it is clear that *but* acts to cancel the implied imminence or inevitability of a predicted event. (As discussed earlier, this inevitability may be present even if the use of *but* is to present rhetorical opposition to a preceding argument – the argument of the likelihood of her singing the complete Strauss work must be uppermost in the speaker's mind, or at least be understood as the 'common ground' discussed by Horn (1991) at the time of the utterance: 'OK – (I accept that) *she had almost sung Strauss's 'Four Last Songs'* (but she didn't finish'.). In such examples, the common ground is the imminence of the completed action, and therefore its predictability.

For this reason, it is likely that the relevant inferences associated with the use of *almost* are related to the R-based implicatures, and may suggest that the speaker was inferring more information than was expressed. As noted earlier, R-based implicatures have been shown to influence the grammaticalisation of predictive meanings from modal verbs historically (Traugott 1989**;** Traugott and Dasher 2002), by the implicatures of future action resulting from present intentions, abilities, or permission. The use of a *but*-clause in examples such as (6) and (14) reveals the presence of similar inferences associated with *almost.* This offers strong evidence against the entailment hypothesis, which, if it is sustained, will require an explanation for such cases. The entailment hypothesis is also weakened by the possibility that *almost P* in some clauses cannot support causal clause subordination (16)–(17), and that coordination with a *but*-clause can be sustained without redundancy when the negative entailment *not P* is actually asserted.[8] These factors

7. 1 am grateful to an anonymous referee of *Journal of Pragmatics* for this helpful suggestion.

8. It is for this reason that Horn (2002) has suggested that the putative entailments associated with *almost* are 'assertorically inert'.

do not allow for an entailment analysis of *almost* without incoherence in the immediate context.

The predictive nature of *almost* in past contexts may therefore contribute to the irrealis meanings of counterfactuality considered to be negative entailments in some accounts. In this respect, it represents a point at which aspect and modality coincide, aspectual proximity being the equivalent of modal prediction. In English, the same proximity is expressed through semi-modals and future forms such as *be going to*, or *be about to*, prototypically used to predict the future through evidential observation of proximity to an event. In the following section it will be seen that the proximative functions of *almost* are grammaticalised diachronically in other languages from verbs of volition, often expressing future meanings also. It is such parallels with volition verbs that enable a modal (i.e. predictive) function to be suggested as attributable to the use of *almost.*

4.2.2 Further evidence for a scalar analysis

Westney (1986) discusses Quantity scales at length, and demonstrates that although entailment relationships may be shown on Quantity scales, not all entailments are related in terms of scalar relationships. Most importantly, he notes that there must be some type of semantic similarity between items on a scale (one cannot compare items like *rose* and *pig*, for instance (1986: 340)), and the stronger term must be a more informative version of the weaker term, suggesting that, above all, the stronger term represents some kind of end-point value (1986: 342). It is this end-point value which contributes to the senses arising from the use of scalar items in that there is a part-whole relationship (meronymic, or partonymic – (Matsumoto (1995), citing Cruse (1986)) between such items. Matsumoto (1995: 38) also shows that Quantity implicatures can be licensed by comparing items which are not in the same semantic field, e.g., mailing, typing, and signing a letter: the relationship between each event is provided by the relevance of the context, and the expectations of the participants in the speech event.

Matsumoto's account of Quantity scales introduces the notion of a horizontal axis of Quantity, in which degree is measured, e.g. ⟨*hot, warm, tepid*⟩ and one which is vertical, measuring specificity of information, e.g. ⟨*Spaniel, dog, animal*⟩. Such distinctions clarify a number of grey areas where scales are concerned, and help to illustrate the distinctions to be drawn between lexical quantity and epistemic quantity of an expression, e.g. a *Spaniel* is no more of a dog than a *dog* but illustrates that the specificity of the speaker's information is greater than if she had used only *dog*. In such accounts, then, the vertical axis is therefore related more

to the Quality maxim than the Quantity maxim, as the quantity of information is directly proportional to the degree of truth attributable to the utterance.[9]

Items on Matsumoto's vertical axis could well include the category of proximatives, with meanings of *almost P, be about to P, be on the verge of P,* and extend to include modal verbs and periphrastic modals such as *be going to P*, *will P*, and their equivalent past tense counterparts *was/were going to P* and *would (have) P*. Modal forms express quantity of factuality over possible worlds; in other words, they modify the factuality of the realisation of their complements. However, Horn (2002) considers items as ⟨*almost VP, VP*⟩ as semantically unrelated and thus eligible for a scale of 'rank ordering' with other items which can only be contextually scaled, such as ⟨*dead*, *moribund*, *sick*⟩; such items can be distinguished from ordinary scalar items by the use of restrictors such as *just* vs. *only*:

(20) The Dean was not just/#only sick, he was dead.

There is no necessary progression along a scale from being sick to being dead; such items are scaled by relevance to the context rather than measures of quantity or degree. The adverb *just* is more expressive of an evaluative restriction than an actual restriction. However, items on Matsumoto's (1995) vertical axis could also appear more felicitous with *just* than the adverb *only*, e.g.

(21) That's not just/#only a dog, that's a King Charles Spaniel!

In (21), it could be claimed that there is a hyponymic entailment relationship existing between ⟨*Spaniel, dog*⟩ making them suitable candidates for Horn-scales; therefore it should be possible to restrict the weaker item by *only*. However, although this is not possible, Matsumoto (1995) still considers such items eligible for the vertical axis of Quantity scales. Matsumoto also notes that it is only context and relevance that can determine what is a more informative item than something else with which it can be compared, and therefore, according to her analysis, *some* rank-ordered items may be appropriate for classification on the vertical axis of Quantity scales; i.e. those that are related to each other by degrees of informativeness. Thus, Quantity scales may be considered to account for rank-orderings in a bi-dimensional scalar account such as Matsumoto's. Since *almost P* and *P* are ranked by degree of informativeness, they may be considered candidates for Quantity scaling, even if they are considered unrelated in some accounts.

9. Grice's (1975) Quality maxim is composed of two parts: (i) Do not say what you believe to be false; (ii) Do not say what you lack evidence for. It could be argued that a Quality scale along the same lines as Quantity scales should be proposed to account for Matsumoto's vertical axis. However, it is difficult to eliminate interference from the maxim of Quantity altogether even in considering degrees of truth and informativeness.

4.2.3 The grammaticalisation of proximatives in other languages

Although verbs of volition often form the sources for the grammaticalisation of predictive future meanings, similar lexical sources have been found crosslinguistically to grammaticalize into proximative meanings. Heine (1992, 1994b) was able to isolate in his data from African languages a volition verb with a corresponding grammatical function of marking proximity, that is, expressing meanings of 'nearly' or 'almost'. In a study of the grammaticalisation of negative marking in Chamus, a Maa dialect of the E. Nilotic family, Heine (1992) illustrates a gradual chain of concepts: the lexeme *-yyéú* moves from being a main verb of volition with a noun phrase object, to an auxiliary-like verb with a main verb complement, and then to a grammaticalized, uninflected aspect marker with an inanimate agent as subject, conveying the meaning almost', and finally grammaticalizing to imply negation. These consecutive stages are illustrated in (22):

(22) *Chamus (Maa)*

a. *k-á- **yyéú** n-daâ*
k-1SG- F-food.ABS
'I want food.'

b. *k-á- **-yyéú** nánʊ n-a-ló n-kaŋ*
k-1SG- 1.NOM NAR-1SG-go F-home.ABS
'I want to go home.'

c. *k-é- **yyéú** l-páyyan n-é-rriá*
k-3SG- M-elder NAR-3SG-fall
'the old man nearly fell.'

d. *k-é- **yyéú** l-cáni n-é-ur6ri*
k-3SG- M-tree.NOM NAR-3SG-fall
'the tree almost fell.'

e. *i-túm-o m-partút? (k)é **yyéú** a-túm*
2SG-get-PFV F-woman.ABS k-3SG 1SG-get
'Did you get a wife? No (but I almost did).'

(Heine, 1992: 338–340)[10]

In (22c), although the subject is animate and capable of volition, the meaning of the predicate is one which is not conducive to former senses of desire, indicating that the aspectual meanings are grammaticalised. In (22d) such senses are well

10. Heine notes that in these examples the function of the prefix *k-* is unclear. It is also noted that the tone-mark on the 1SG item *a* (22e) does not appear in the original text. Abbreviations listed in Heine (1992) may be found in the Abbreviations index.

established, as is demonstrated by the presence of an inanimate subject not capable of expressing volition. The use of *yyéú* is now as an aspect marker, described by Heine (1992: 339) as the ALMOST-aspect, but later renamed the proximative aspect in Heine (1994b). In (22e) the proximative aspect has been reinterpreted as a negative; the morphosyntax has also changed in that the lexeme *yyéú* is no longer inflected as a verb for person and number, clearly indicating its grammaticalisation to an aspect marker (Heine 1992: 339). Such evidence of the gradual, incremental development of negative inferences in proximity markers is incompatible with an entailment analysis in which the entailed meaning should have been part of the inherent meaning of the lexeme from the beginning: although (22) is not demonstrated as a diachronic pathway of development, it is clear that the inferences derived are nevertheless context-dependent and thus can only be described as implicatures.

The conceptual route VOLITION > PROXIMATIVE ASPECT > NEGATION may be compared with the pathway of grammaticalising future modals hypothesised by Bybee et al. (1994: 256), to be re-examined in Chapter 6, since both routes of grammaticalisation (to either future meaning or negation) have the same lexical concept as their source which is a verb expressing volition. Modal future meanings are derived by the conventionalisation of conversational implicatures, and this could suggest that the same mechanism is at work in the development of aspectual, proximative meanings from volition verbs in some languages; that is, the two grammaticalisation paths are linked by a common mechanism for development. Heine (1994b: 44) attributes the development of proximatives to contextual expansion, suggesting that the use of the volition verb extended to contexts in which it cannot be held to have volitional senses motivates the inferences of proximative aspect. But the pragmatic extensions related to the grammaticalisation of volition verbs into predictive future senses are derived by means of flouting the R-Principle, as noted earlier, and there is reason to suspect that the same kinds of inferences are at work in the development of proximative aspect from volition sources. However, the gradual development of inferences in (22) is attributable to the exploitation of the Q-Principle, not the R-Principle – from the meaning of desire + past ('wanted to'), the grammaticalised senses of proximity to a specified goal are obtained, with the final implicature that the specified goal was not attained: in this case the scale is one of the factuality of the event. The weaker variant (*W*) is the factively restricted *yyéú* used with past time markers to indicate 'wanted to', the stronger variant (*S*) on the scale being the object of volition, whether in the form of a nominal object or a complement clause. The hearer infers that the speaker, in observation of the Q-Principle, was not able to supply more information than that the desire or volition to do *P* was there (a maximally informative expression), and if *P* had eventuated, the speaker would have conveyed this information. Therefore,

an implicature of the falsity of *P* is one result: in (22e), the hearer infers that it is not the case that the speaker got a wife, otherwise he would have stated it. In the case of (22c) it is inferred in the weaker assertion that the old man nearly fell that a stronger assertion that he actually did would be false. It could be suggested that to say that the old man fell entails the weaker proposition that he nearly fell, and that during the act of falling there was a stage in which he had nearly fallen. But to only utter the weaker proposition 'nearly' when it is known that he 'actually' fell would be uncooperative and quantitatively uniformative.

It may be questioned why the same conceptual source, a verb with the meaning of desire or want, should be grammaticalising along two different pathways, resulting in either future or proximative aspectual meanings. Furthermore, it is seen that the implicatures arising from the use of volition verbs in non-past contexts result in meanings of predicted actualisation of a later event, while in past contexts, the most common implicature seems to be that the event did not actualise. While it is plausible that the hearer infers from the speaker's reporting of the subject's intentions that a predicted event will be realised at a later time than the moment of speaking,[11] if the same implicatures are placed in a past time context, the realisation of the event is interpreted as not actualising in the past prior to the moment of speaking (e.g. *he intended to come* implies that he did not, or that it is not known; while *he intends to come* suggests a likelihood that he still might). This is because modalised expressions are conditioned for factuality by the time reference of the utterance containing them. Generally, R-based implicatures apply to all predictive senses, both past and present, but the probability of a Q-based implicature indicating hypotheticality or counterfactuality is greater in the past as the past is presumed as known, and it would be less than co-operative to make a statement of prediction about the past for this reason. Given that fact, the utterance of a prediction about the past provides sufficient conditions for the licensing of Q-based implicatures, suggesting that no more information was available, and the information was therefore restricted in factuality.[12]

11. The development of future meanings out of reports of the subject's intentions, though, is held to question in Chapter 6, not least because the same reports of intentions with past time reference do not produce a future-in-the-past reading, but a counterfactual one. This supplies additional evidence for the hypothesis that intention meanings were not the sources for the original future uses of volition verbs in English.

12. It is noted here that the licensing of Q-based implicatures in past temporal contexts does not apply generally to all modal types. The example given in section 4.1 of past ability *(She was able to solve the problem)* is the source for an R-based implicature in the past, not Q-based, and the R-based inferences are weaker in the present *(She is able to solve the problem* does not necessarily produce the inference, 'She will solve the problem').

In the Chamus examples (22a)–(22e) it is observed that the introduction of aspectual senses coincides with the removal of future temporality from the time spectrum of the proposition (Heine 1992: 341), and at the final stage of negation, the only temporal context in which the particle is found is past, which as noted above is believed to provide the most accessible framework for interpretations of counterfactuality. This could suggest that the aspectual senses of proximative were associated only with the use of the verb in past time contexts, and that present time reference produced future meanings. However, Heine (1994b) maintains that the difference between the future and the proximative is that the future is a tense and the proximative is an aspect and therefore can occur with any time reference. Thus, in an example from West African Pidgin English, there is no marker of temporality and the proximative can refer to either past or to present aspectual meanings (Heine 1994b: 39):

(23) *Tif wan tek wi money*
thief want take our money
'A thief is/was about to take our money.'

It is obvious from examples like (23) that the present form of the volition verb, *wan*, expresses a proximal future meaning that is absent in the use of modals such as *will* in English. This means that it is not so much the meaning of general volition that may induce proximative aspectual inferences, but the meaning of intention, a sub-sense of volition relating to future specific events and participants (see Chapter 6).[13] The fact that there are cases in which the same form is used to express the proximative in both past and present contexts, though, requires an explanation to account for the apparent tendency for proximatives to develop into counterfactual (or negative) markers.

4.2.3.1 *Further developments*

In 4.2.1 was discussed the presence of an antiresultative (preventive) category of adversative conjuncts in certain languages, as discussed in Malchukov (2004). Earlier than this, Kuteva (1998) and (2001) had isolated a grammatical category ('gram', after Bybee and Dahl 1989) which is very similar to the proximative except that it always grammaticalises into a counterfactual marker, while the proximative does not necessarily do so. This crosslinguistically-identifiable category has been labelled ANA (Action Narrowly Averted) by Kuteva, and describes an action which is on the verge of happening, but did not take place; that is, it is a proximative with a built-in inference of counterfactuality. The proximative, on the other hand,

13. It is noted also in Romaine (1999) that the proximative form in Tok Pisin (*laik*) is not the same form that is used to express the future (*bai*).

refers to an aspectual situation located close to the initial boundary of the situation described in the complement verb, but without any necessary implication of counterfactuality (Kuteva 1998: 127).[14] Because of this the proximative is more versatile with regard to time reference, and can be used in both past and present situations. However, in the past, it is regarded as virtually indistinguishable from the ANA – what Kuteva (1998:131) describes as a past proximative is actually in most cases the ANA with the 'narrow aversion' expressed in the discourse as an implicature of an added *when-* clause or a *but-clause,* rather than being implied as part of the meaning of the proximative *per se*. It is derived not only from volition-verb sources, but also from sources of verbs meaning 'have', 'be', and 'fail' or 'miss'. The functional difference between the proximative and the ANA, though, is expressed formally in a language such as Finnish, in which there is a difference in the type of infinitive co-occurring as a complement of the proximative; the ANA co-occurs with the 1st infinitive, and the proximative (with no counterfactual inferences) co-occurs with the 5th infinitive. For example:

(24) *Finnish*
Olin *kadota* *kadulla*
be:1SG:PAST fall:1st.INF in:the:street
'I nearly fell (down) in the street.'

(25) a. *Potilas* *oli* *kuole-mais-i-* *lla-* *an*
patient.NOM be:3SG:PAST die:5th.INF:PL: ADDESS: POSS.3SG
'The patient was about to die.'
b. *Potilas* *on* *kuole-mais-i- lla-* *San*
patient.NOM be:3SG:PRES die:5th.INF:PL: ADDESS: POSS.3SG
'The patient is about to die.'

(Kuteva 1998: 117, 133)

Although it would appear from Heine's data that non-past volition sources grammaticalise into the proximative, and past volition sources grammaticalise via the proximative into the ANA, in the above examples, there is evidence of past proximatives which do not grammaticalise into the ANA gram, and this evidence in found

14. More recently, Heine and Kuteva (2002: 310) describe the ANA as an 'avertive', suggesting that it is an example of the generalisation of some verbs into tense or aspect auxiliary functions. Romaine (1999: 343) discusses the overlap between aspect expressing imminence and (future) tense, while acknowledging the difficulties found in other descriptions (e.g. Bybee et al 1994: 245) that it is difficult to tease out the modal and aspectual nuances associated with these notions as well. For the purposes of the present chapter, the aspectual description will apply to both the proximative and the ANA, with the exception that the ANA is believed to carry additional modal interfaces.

in the type of infinitive which appears in the sentence, as illustrated in (24) and (25). There are few examples of such formal distinctions in Kuteva's data, though, and it is not clear whether or not the change of subject in (24) and (25) may be a factor, given that the use of a first person subject, as noted earlier, enables greater conceptual specificity with respect to the factual basis backing a counterfactual utterance. In such cases, the hearer's evaluations of the factual basis are therefore stronger than with a third person subject when the realisation of the complement may be not known rather than known not to have occurred (more data, though, would be needed to clarify this point with regard to Finnish). The sources do not make it clear whether the speaker was implicating a predicted realisation of the complement of the proximative (as in 25b), or a predicted uncertainty; they only suggest imminence and nothing else.

Furthermore, the fact that there are two clearly different functions illustrated by such data does not discount the fact that in many cases, as noted by Kuteva, the ANA 'emerged' from the counterfactual meaning, whether the counterfactual meanings were the result of the grammaticalisation of proximatives or not. Kuteva illustrates the grammaticalisation of ANA with volition verb sources (e.g. Old Bulgarian) as a series of only three stages: PAST VOLITION/INTENTION (I) > COUNTERFACTUAL/ HYPOTHETICAL (II) > ANA (III), with, as is usual in grammaticalisation stages, each subsequent stage retaining properties of the preceding stage (Kuteva 1998: 142). Furthermore, ANA is eventually predicted to grammaticalise into the non-counterfactual proximative after Stage III (1998: 152). Two questions which arise from this study, though, are whether there is any way of determining that the counterfactual stage preceded the ANA, and what is the relationship between the ANA and the counterfactual. If the stages are examined in the light of the pragmatics of Quantity implicatures, it may be possible to answer such questions, and also to determine how counterfactuality became part of the meaning in the first place.

Kuteva notes that the ANA gram may be represented as at varying degrees of grammaticalisation across different languages. For example, an early stage might be represented by restriction of the gram to animate subjects only, and at later stages there may be formal evidence of more advanced levels of grammaticalisation, for example, cliticisation or phonological loss (1998: 121). An example of an early stage of grammaticalisation is given in Russian, in which the ANA gram, a verb meaning 'be' *(bylo)* can only be used with intentional subjects or situations with some relation to intentionality. It is also noted by Kuteva that the use of this gram in Russian must always be followed by an adversative clause introduced by

no 'but', and that this is an indication of an early stage of grammaticalisation. An example is the following:[15]

(26) *Russian*

Ja bylo	*pošel*	*no... ostanovilsja*
I be:T.3SG:NEUT	depart:PAST:MASC	but stop:PAST

'I nearly started on my way, but... (then) I stopped.'

Kuteva (1998: 122)[16]

The adversative conjunct in (26) is of the same type described by Malchukov (2004) as marking restrictive or preventive functions in Russian (4.2.1). The presence of the appended adversative clause explains the derivation of the counterfactual implicatures as Q-based implicatures in the grammaticalisation of proximity. As was demonstrated above for the meaning of *almost,* such proximative expressions imply the prediction of their complements, therefore, in the initial stages of grammaticalisation, an R-based implicature is involved, which, as for modal verbs generally, results in future-projecting meanings developing. This stage is illustrated in (27) as Stage I. The R-based implicature, however, can be explicitly cancelled with an adversative clause implying contrast or contradiction (as in 26), and perhaps contrastive stress on the element which induces the implicature (in this case, the verb expressing proximity), as shown in Stage II in (27). The ability for R-based implicatures to be cancelled in such a way was noted by Horn (1984: 21) as producing the opposite type of Quantity implicature, the Q-based, and it is the Q-based implicature which derives the inferences of counterfactuality. Therefore, a further stage of grammaticalisation, presumably following the stage at which Russian is now situated, would involve the loss or omission of the contextual material previously necessary to cancel the R-based implicature, so that the proximative expression alone stands for the entire construction which formerly yielded the counterfactual senses, and the counterfactuality derived in the previous stage by the cancellation of an R-based implicature is now a conventionalised meaning in the proximative verb. The proximative verb alone now subsumes the meaning of the entire construction expressing not only proximity, but prediction and cancelled prediction yielding counterfactuality. This is illustrated in (27) as Stage III. A fourth stage may be reached in which the counterfactuality is implicitly associated with the proximative marker, and is not apparent as a cancelled

15. This stage is not illustrated in all of Kuteva's examples.

16. The abbreviation T in (26) is not supplied in Kuteva (1998).

positive prediction, but as a negative inference instead, which may generalise to every use of the proximative. The stages may be expressed as follows:

(27) Stage I: proximity to X (prediction of X via R-based implicatures)
Stage II: proximity to X, but Y, therefore not-X (prediction of X is explicitly cancelled, inducing Q-based implicatures)
Stage III: proximity to X (but Y, therefore not-X) (cancellation is omissible, and implicit)
Stage IV: proximity to X ('not X' generalised as part of the meaning)

The Russian example in (26), illustrative of an early stage of the grammaticalisation of ANA, is represented in (27) as Stage II. At Stages III and IV the counterfactuality associated with such grams is therefore now grammaticalised as a metonym of a prior stage at which a prediction and its subsequent cancellation were expressed as two co-ordinated clauses. The stages illustrated in this way would suggest that counterfactuality followed the ANA stage, but without sufficient actual examples of languages at different stages of historical development, it would be impossible to generalise such a pattern of development. For the moment, it stands as a hypothesised explanation for the role of Q-based inferences demonstrating the pragmatic developments in the grammaticalisation of proximatives.

The arguments for the negative entailments rather than counterfactual implicatures resulting from the use of *almost* are further weakened by this cross-linguistic data, illustrating the gradual development of proximative inferences via the strengthening of Q-based implicatures. Given such evidence, it is suggested therefore that the senses of counterfactuality associated with *almost* in English may be similarly the result of the gradual strengthening of Quantity implicatures, and that both Q-based and R-based implicatures may interact to determine proximative meanings. It is possible, then, that the English proximative marker *almost* might have derived its counterfactual meanings in a way similar to that shown in (27). Kuteva refers to the English modal *would* which is represented as having reached only the counterfactual/ hypothetical stage (her Stage II) of grammaticalisation into an ANA marker. She also illustrates the modal independently as a proximative, not an ANA gram, and suggests, accordingly, that this function waned in the history of English. However, a survey of some of the Helsinki Corpus data shows that English did occasionally use *would* and *would have* to express proximity to an action which did not subsequently occur, as early as c1150–1250, in the Middle English period (Ziegeler 2000b), though this function appeared infrequently, and was only detectable by the presence in the context of explicit cancellation using a *but-* or a *when-clause.* ANA was therefore not a primary function of the modal from Old English to Early Modem English times, but it did exist (Visser, 1969,

also notes this), the only indication of its development being in the presence of adversative clauses.

It is also quite likely that as conditional constructions using *would* became more common, the function of the modal became more specialised as a counterfactual marker, and the ANA functions were taken over by another form which might have even shared the ANA function with *would* and *would have* previously, explaining the infrequent occurrence of the modal form in both corpora. Furthermore, it is still possible to use *would have + V-en* today to express proximity to an event that subsequently did not occur; e.g. *1 would have gone with her, but I had too much work to do;* or simply *I would have gone* (cancellation implied, and with prosodic emphasis on *would);* however, the meaning of close physical proximity does not seem quite as intense as it is with an adverb such as *almost.* It remains a topic for further investigation then to determine (a) whether *almost* is merely a supplanted form for a function which was once performed by the modal in English and might have receded, or (b) whether the modal is still in a stage of development, and the infrequent appearances of ANA functions in the historical data predict future development in the direction of an ANA marker, as suggested by Kuteva. Moreover, the presence of alternating forms for expressing the future in English, one with a more proximal function (*be going to*) seems to indicate that, in spite of its regular appearance in conditionals and other counterfactual structures, *would* when used alone in main clauses became more frequently associated with the R-based inferences of prediction, rather than the Q-based, anti-prediction meanings that are associated with counterfactuality. These tendencies are seen to apply in the past as well as in the present, as shown in Haegeman's (1989: 313) contrasting examples: *The Queen would arrive/was going to arrive three hours later*, in which the use of *would* retains its predictive inferences even when the reference is to future-in-the-past, but the proximative inferences associated with *was going to* result in a counterfactual reading. Thus the difference between a volitional counterfactual marker and one that expresses non-counterfactual inferences of prediction is its ability to maintain its future predictive senses even when used with past time reference. *Be going to* presents a more likely candidate for counterfactual implicatures in the past tense as it also expresses aspectual proximity, and thus closer proximity to fact, while *would* in a main clause retains the predictive inferences it has in the present tense.

A brief overview of the appearance of *almost* (in its various orthographic representations as listed in the OED, 1970) and in the Helsinki Corpus reveals that *almost* is also rare before the Early Modern English period (only 5 examples were noted in the Middle English data, compared with 51 in the Early Modern English texts) and even after that, it appears in the majority of cases co-occurring with another quantifier, another adverb, an adjective or participle, a locative, a noun phrase, or an expression of a unit of measure. The only instances in which it co-

occurs with a punctual or telic verb are when the verb is in (participle form) either the perfect or the pluperfect aspect, indicating a stative situation, for example:

(28) after the dancing and the sporte was **almost** ended, he going into his chamber to goe to bed...

(1552–1602), *Simon Forman,* ed. Halliwell, p. 5, HDCET)

In none of the examples surveyed did *almost* co-occur with a punctual or telic verb in the simple past. This seems to indicate that the primary co-occurrence conditions for the early uses of *almost* were in more time-stable situations. Kuteva's ANA examples, in which counterfactuality is an intermediate stage of development, all co-occur with punctual or telic verb types used in the past tense; these are non-time-stable situations. The differences in co-occurrence conditions might indicate, therefore, that counterfactuality might only be relevant to certain contexts of the use of proximatives, depending on verb type and/or the grammatical conditions of tense and aspect in the context. The differences in the co-occurrence conditions therefore require closer examination.

4.2.4 Defining boundaries

Many non-scalar accounts of *almost* have suggested that *almost P* and *P* are to be considered as two separate events, e.g Sevi (1998). In the consideration of proximatives as referring to 'build-up' stages towards the completion of a goal, the difficulty of perceiving the approach of an event as distinct from a complete event enables a more easily-rendered scalar account. However, even a punctual event such as *Chris collapsed in his office* would be likely to entail an approach stage in which he had almost collapsed before he collapsed, and for punctual events such as a ball falling to the ground, it is possible to conceive of a proximative phase in the sense provided by Langacker (2002: 80) and (1987), in which an event normally perceived in its entirety may be 'scanned' sequentially as a series of build-up phases, as if by a slow-motion video camera. Thus the possibility of imposing aspectual boundaries on punctual events such as Vendler's (1967) Achievement predicates refer to may be nothing more than a matter of ease of conceptualisation.

One of the problems involved in perceiving an approximation stage as an individual 'event', then, distinct from the 'event' marking the actualisation of its complement, is that there is no uniquely measurable point at which *almost P* can be universally determined for every predicate; it is different in each usage. This conundrum is particularly evident in Sadock (1981) in which he compares the height of a filing cabinet with that of a human being, and discovers that *almost 6 feet tall* can be quite acceptably construed as five-and-a-half feet for the filing cabinet, but

not for the human being.[17] The point at which a speaker can utter *almost P* is thus an arbitrary decision, based on the speaker's expectations of proximity to *P*, and whether *P* should be invoked as an end-point value at all. For this reason, *almost P* can never refer to an individuated event; it is only a prediction of one.

The need for an end-point focus to which *almost* is oriented is evident in Sevi (1998) in which he compares *the same* and *different* with proximatives, including also *barely*, which can co-occur with *different* but not *the same*, while *almost* can co-occur with *the same* but not *different*. This is because *the same* has an end-point value, or absolute boundary (it is upper-bounded), while *different* is lower-bounded conceptually, and its upper boundary is limitless. Such distinctions can be shown in the following examples:

(29) a. These two paintings are barely different.
b. These two paintings are almost the same.
c. # These two paintings are barely the same.
d. # These two paintings are almost different.

However, for an expert in forgery trying to paint a fake Van Gogh, (29c) might be an acceptable comment to make if he were unsure of his technical skills; at the same time (29d) might be a possible utterance from someone hastily attempting to conceal the forgery before the police arrive. The use of the predicate depends very much on the speaker's aims, predictions, intentions and expectations; the lower-bounded state of minimal difference becomes salient if it is a goal or end-point towards which the approximation is directed or intended. The end-point is thus pragmatically imposed on the situation, and the proximative expression becomes a prediction. In most accounts, however, the end-point or upper-bound is imposed by the lexical content of the predicate itself.

Sevi's (1998) account thus discusses the notion of 'vagueness', and notes Klein's (1997) suggestion that *almost* must have an association with absolutes, as mentioned also above. Thus, predicates such as *tall*, *wise*, *cold*, and *big* when coupled with *almost* leave the proximity evaluation in some doubt, if decontextualised, since they do not refer to absolute qualities. Sevi suggests that this is only because *almost* is used more frequently with end-point predicates; it may be more accurate to suggest though, that these are the prototypical uses, and that use with unbounded predicates is an extended, metaphorical and pragmatic use of *almost*. Some accounts could suggest that the upper boundary is being 'coerced' in such cases, but coercion is a difficult notion to define, and often cannot be distinguished from metonymy (Ziegeler, forthc.). It may be more appropriate to suggest that *almost P* represents

17. This was also pointed out by Atlas (2005: 159).

vagueness in itself, since the interpretation of what it represents, even for measurable entities such as filing cabinets, is shown to be entirely context-dependent.

If we are to adopt this line of reasoning, it may be possible to invoke philosophical solutions to the problems of vagueness such as 'supervaluationism' (Keefe 2000). Keefe discusses the Sorites Paradox, by which a person B can be considered to be tall if he or she is only a fraction of a centimetre shorter than the next person, A, and the same for person C, person D, person E, and so on down the line until there is a considerable difference between person A and the last person who will, under normal circumstances, be short. The paradox is built on relativistic evaluations, and proves that such evaluations cannot be objectively assessable, though it raises the question why, in measuring tallness, one would go down the scale, and not upwards instead, using a minimal height as a lower bound and measuring increasingly taller people rather than those who are increasingly shorter. What is interesting about Keefe's account is that she considers borderline cases of tallness as cases of 'truth-value gaps' (2000: 17), on one account qualifying for *P*, on other accounts not, and such borderline cases can be described as neither true nor false. It is with these possibilities in mind that a semantics for *almost* and other proximatives can be proposed: they refer to situations which are neither true nor false; i.e. they are supervaluative expressions. Whatever event occurred, for example, to provoke the utterance of the proximative expression:

(30) Chris almost collapsed;

such as the observation of him staggering uncontrollably across his office, does not describe the event of him staggering, but the event which was predicted by such an event, i.e. his collapse. Furthermore, the predicted event is neither true nor false either, since it is not known whether his staggering represented partial collapse or not; in other words, we do not know what happened, only what might have happened, and that is a modalised event which can have uncertain or indeterminate truth value.

However, proponents of the entailment hypothesis may protest that our lack of knowledge of what actually happened to Chris (to prompt the utterance of a proximative expression) should be understood as meaning that he did not collapse and we should forget about partial representations of the predicate altogether. This would mean that 'Chris did not collapse' was a satisfactory means of interpreting (30), and we should not attempt to find out what, if anything, actually happened. But, as noted earlier (section 4.2.1) this raises a paradoxical question: *If* almost P *entails* not P, *then how do we know* what *almost happened if it did not occur at all*? To propose that *almost P* expresses only a prediction about *P* is unavoidable.

The case for a prediction is strengthened by the impossibility of including large amounts of build-up information in the predicate of *almost*, e.g.:

(31) ??Chris almost stood up, walked out the door, banged it shut, ran across the road, and got run over by a yellow double-decker bus, but he stopped himself just in time;

We cannot express proximity to an entire sequence of events as the proximative can plausibly only predicate what is predictable at some unidentifiable moment of observation. Inferences of entailment are therefore too strong to derive from the minimal evidence we have of a predictive situation, and it is not possible to deny the entire truth of *P* with an operator expressing only approximation to *P*. The proximative construction may only metonymically refer to counterfactual events in terms of speaker knowledge.

Atlas (1984; 2005) discussed the meaning of *almost* as equivalent to 'not quite', where *not quite* means 'not totally, completely, or wholly', and that only for Accomplishment and Achievement predicates (Vendler 1967) does *not quite P* mean *not P*. However, he adds (1984: 354–5) that it would be conversationally uncooperative to utter a statement to the effect that:

(32) a. Mart almost, but did not quite swim the English Channel

(which can be subjected to cancellation in the usual way by asserting *P*:

b. ?Mart almost swam the English Channel, and in fact he did swim it)

if it was only the case that

c. Mart scarcely swam the English Channel

or if it was the case that Mart just went for a paddle. The uncooperativeness is due to the fact that although *not quite* (= ~*S*) may be compatible with 'not partly' (= ~*W*), it is equally likely that the stronger claim may hold, i.e. that *not quite* Q-implicates 'partly' (in the same way that *not all* Q-implicates *some*: ~ *S* → *W*). The reasoning behind this is that if a speaker knew that Mart did not even scarcely swim the Channel, why not express the negation of the *W*-item rather than the negation of *S* (~*W* is always compatible with ~*S*)? However, Atlas's suggestion that *not quite P* is the same as *not P* only for Accomplishments and Achievements may be extended to other domains.

If *not quite/wholly P*, then, is taken as equivalent to *not P* in Achievements and Accomplishments (bounded predicates), as suggested by Atlas (2005) and *not P* is an entailment of *almost P*, then denying *P* will not allow for downward-implicating Q-based inferences of the kind: *not P* (= ~*S*) → *almost P* (= *W*); after

all, we cannot claim that *Chris did not collapse* implicates *Chris almost collapsed*. However, when *not P* is reinforced with a quantifying adverb, *quite*, thus making it ambiguous between either (i) *not P* (~ *S*) or (ii) *partially P* (*W*), it makes for a clearer explanation; e.g. in an Accomplishment: *Tuck did not quite paint the gate* is ambiguous between his not starting to paint it and his not finishing the painting, but it does not entail that the gate was not painted. For this reason, *not P* should be compatible with negative minimisers, e.g. 'not in the least bit *P*': (*Chris did not collapse* → *Chris did not in the least bit collapse*) and therefore, according to Atlas's claims for Accomplishments and Achievements, *almost P* is compatible with not only *not P*, but *not in the least, not even scarcely/slightly/partly P*, and so on (*partly, scarcely, slightly, not in the least*, and so on, are all in *W* scalar relationship with *P*), since, according to the implicata listed in Horn (1989), ~*W* is always compatible with ~*S*. Thus, even under an entailment account of *almost P*, ~*P* should not be contradictory with adversative clauses using a negative minimiser, as follows:

(33) a. *Chris almost collapsed* entails *Chris did not collapse*
b. *Chris did not collapse* entails *Chris did not even slightly collapse*

Therefore

c. ??*Chris almost collapsed* entails *Chris did not even slightly collapse*.

If it is possible to deny the entire predicate, *P*, by saying *not P*, then it must be also possible to deny the most minimal amount of *P*, since under most accounts, *P* must include all of *P*. That is, for some uses of proximatives, it is minimisers which are the true antonyms of proximatives, not absolute or total expressions. The infelicity of (33) attests to the relationship between *almost P* and *P* being one of (indeterminate) meronymy, and one cannot attempt to negate a partial predicate with the assertion of a negated whole predicate. While *not P* is compatible with *almost P*, then, *not in the least P* is not, and comparison with (32b) suggests that while it is not contradictory to append a *not/not quite P* clause, it is at least odd, if not contradictory, to append a clause in which the negation of the minimal amount of *P* is expressed.

Thus, the argument for *almost* as holding entailments of negation of its complement are further weakened by the arguments outlined above: in the first instance, the use of an adversative clause (antiresultative), claimed to represent a cancellation of an R-based implicatum, *W* implicates *S*, cannot be shown to be the same type of adversative as the rhetorically-opposed adversative conjuncts discussed by Horn (2002; 1991) and Pons Bordería and Schwenter (2005), due to the fact that such functions are considered distinctive in some languages, as discussed by Malchukov (2004), and earlier by Kuteva (2001). Furthermore, if the negative inferences present in the meaning of proximatives are an entailment, as is endorsed

by Hitzeman (1992), Sevi (1998), even one that is assertorically inert (Horn 2002), and the adversative conjunct is therefore understood to be a reinforcement of that entailment (as is discussed in Pons Bordería and Schwenter (2005), amongst others), then the negative reinforcement should even more strongly reinforce the entailment when used with a minimiser. However, such reinforcement is incompatible with *almost* as it contradicts the inferences of partial representation of *P* associated with proximity, which are present even when the predicate refers to an event which is aspectually punctual. Thus the negative inferences in *almost P* (~ *P*) can be seen to be inconsistent with the meaning 'not *P* at all' and it remains a question for further debate whether 'not completely *P*' is considered as equivalent to the truth or to the falsity of just *P* itself. It is for this reason that it was suggested above that *almost P* refers to situations that are neither true nor false (supervaluationist). The following section may help to clarify a number of problems.

4.3 Co-occurrence conditions

As noted above, Atlas (1984: 350) mentioned that the variation with which *almost* could be interpreted depended largely on the lexical aspect of its verbal predicate, entailments being associated only with Achievements and Accomplishments rather than other aspectual types. Wierzbicka (1986) revealed that in Polish, there is a difference in the form used to mark proximity to *P*, depending on whether *P* referred to a stative or a non-stative complement; e.g.:[18]

(34) a. *On* jest *prawie lysy*
he be.3sg pres.almost bald
'He is almost bald'

b. *On* o malo *jej* nie *zabil.*
he by little she not killed
'He almost killed her'

The data from Polish are interesting as they point to the salience of aspectual distinctions in at least one language, suggesting that the counterfactual inferences may vary over different aspectual environments, and that such distinctions are grammaticalised using different proximative forms. This could present problems for an entailment analysis, if it must be sustained across two distinct proximative markers in some languages.

18. The interlinear glosses do not appear in the originals but were supplied by Anna Wierzbicka (p.c. 8/12/05).

One of the arguments Hitzeman (1992) uses to justify an entailment analysis of *almost* is the contradiction suggested by *almost P* and P occurring co-temporally. However, Atlas (1984: 348) argues that a sentence such as:

(35) Moore almost understood 'material object' and he understood it.

is acceptable. Hitzeman (1992) claims that (35) is misleading, and would only be acceptable if Moore had almost understood 'material object' on one occasion, and then later understood it. Furthermore, she argues that *almost P* is ambiguous in Accomplishment verbs between almost completing an event and almost beginning (1992: 230), thus indicating that it can actually co-occur with events which have not yet begun. This is explained, she maintains, by *coercion* of an inchoative aspect (as also noted above – 4.2.4). Since *almost P* does not refer to an actual event, it can only be said to imply a future event occurrence. The argument that an entailment is justified due to the representation of two separate events *(almost P and P),* therefore, cannot be supported; in fact, in *almost P* co-occurring with certain verb types, no event is referred to at all. The acceptability of (35) can hold if the proximity to the event and the event itself are considered as in a part-whole relation with one another. Leech (1987: 25) describes verbs such as *understand* as 'verbs of inert cognition', or 'unrestricted present', referring to mental states. As such, they should be easier to construe as situations which are homogeneously distributed over an indefinite time-span, and such temporally-unbounded environments cannot individuate the implied 'separate events' required to create the contradiction necessary to support an entailment account. Perhaps, then, in some environments *almost* produces a greater likelihood of contradiction than in others, suggesting that the negative inferences may in fact be graded in a continuum-like fashion according to varying strengths. It is possible to see that (35) does not appear so sharply contradictory as, for example, Sadock's (1981) example would appear:

(36) Bill almost swam the English Channel, and he swam it

when referring to the same event in both clauses. The reason for this is that *almost* usually refers to a point close to the boundary of the predicate it quantifies (as suggested by Heine (1994b: 36), referring to the proximative in African languages), and this point is more vaguely construed in imperfective situations such as (35), where the predicate has no conceivable boundary (as discussed in 4.2.4). However, Sadock (1981: 263) and Horn (1991: 318) both refer to the possibility of the following:

(37) Not only did Bill *almost* swim the English Channel, in fact he *did* swim it.

The likelihood of a contradiction in such examples appears to be much less than in examples such as (36), and the use of *not only...* emphasises more the part-whole

relationship of *almost P* with the subsequent assertion of *P*. The differences may be due not to the implicatures associated with *almost,* but to conversational implicatures associated with the use of *and* as a conjunction, which are often taken to suggest 'and then', thus inferring the conjunction of two subsequent events, ordered in time. Such implicatures may be at the basis of Hitzeman's problems with (35), and result in her construal of the verb *understand* as an event having terminal boundaries. (37), especially as illustrated with appropriate contrastive stress, illustrates the possibility of conceiving approximation to *P* and *P* as a single event, and provides even more reason to dispense with an entailment analysis of *almost*.

Langacker (1987b: 79) described the use of imperfective processes to refer to an extension of a stable situation through time, one with no inherent boundaries.[19] Thus, the state of full understanding may not be conceptually distinct from any approach stages or states of approximate understanding which may overlap with it, and may not therefore entirely contradict such states. (35) may be schematized then as in Fig. 4.1, the centre shading marking the area of approximation which overlaps with the darkest area marking the (predicted) fully represented state. Grammatical imperfectivity, using the progressive aspect, can be similarly schematized, using an Activity verb (see Vendler, 1967), which is also inherently unbounded, as in *Bill was almost swimming*.

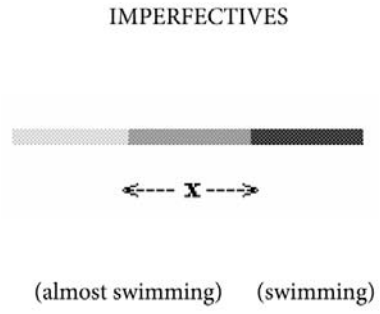

Figure 4.1

The centre shading does suggest for expressions such as *almost swimming* that some action is on-going at reference time; however, this is not contradictory to *swimming* but may overlap with and indicate a less representative instance of the

19. In using the terms 'perfective' and 'imperfective', Langacker (1987b: 79, fn.) was referring to the lexical aspect of verb types (Vendler's 'States' being imperfectives, and 'Achievements', 'Accomplishments', and 'Activities' being perfectives). Langacker's use of the terms will be adopted in the present chapter, except where reference is specifically indicated as grammatical aspect.

state of *swimming*.[20] Proximity in Imperfectives is therefore illustrated as a partial representation of a state or process.

Perfective events, however, do not contain the possibility of grading indicating a part-whole relationship, since they are bounded in time, and the time span over which the event occurs is often too brief to be considered as co-occurring with an internal approach phase.[21] For this reason, the grading provided by *almost* is pragmatically determined by a time-scale, not semantically determined by the internal composition of the entity, and the approach stage is implied as occurring independently and outside of the bounds of the event. The representation of *almost* with one type of perfective event, a punctual Achievement: e.g. *Mike almost fell,* can be illustrated as in Fig. 4.2, the cross marking the point of proximity, and the dotted goal post marking a predicted event.

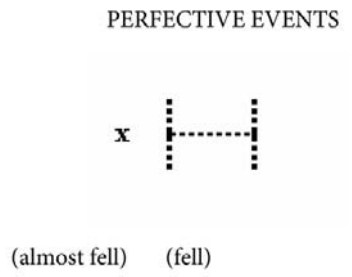

Figure 4.2

Because of the conceptualisation of an external approach point in Fig. 4.2, accounts such as Hitzeman (1992) cannot consider the use of *almost* with such verbs unless the adverb refers to a time point outside the time at which the action did occur (if at all). The punctuality of many actions would make it questionable to perceive, for example, an event schematised in Fig. 4.3.

20. As pointed out to me by Hilary Chappell (p.c.), different interpretations may arise if the meaning of *swimming* is to refer to a stage of learning how to swim, i.e. *Bill is almost at the stage of being able to swim.* The present use, though, refers to an action in progress.

21. This term is borrowed from Abraham (1998) where it refers to the biphasic nature (i.e. approach and result) of terminative verbs in German.

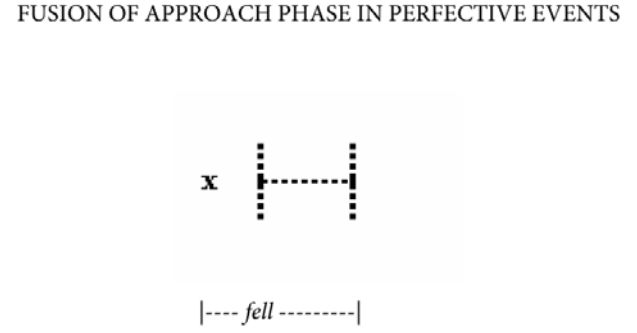

Figure 4.3

where the act of falling includes or is fused with the approach point. Langacker (1987b: 72–73), though, discusses the possibility of summary scanning (versus sequential scanning) in which a complete event may be conceived as a composite accumulation of build-up phases. Such a construal would allow for Fig. 4.3 to include an approach point. However, in reporting the conceptualization of a punctual event, the approach point is often not viewed as discrete from the result, and, furthermore, it would be conversationally uncooperative to report only the approach point without reporting the complete event, if known. It is one of the reasons that proximative adverbs can be given an implicature account, rather than an entailment account. Langacker (1987b) also ranked perfective and imperfective verb types as direct notional analogues of count and mass nouns, count nouns being comparable to perfective processes, and mass nouns to imperfective processes. If the use of proximative adverbs invokes a point close to a conceived boundary of a predicate, then a spatial boundary demarcated in the notion of a count noun should be amenable to approximation by *almost* in the same way as the temporal boundary demarcated by a perfective verb type. It is possible to use *almost* to refer to the count nouns Langacker terms 'interconnected entities', e.g. *team, constellation* and *alphabet,* since these refer to bounded entities which are compositionally distributed over a number of members. The grading of size then provides the internal scalarity needed for the use of *almost;* and the boundary relevant to approximation is the terminal one, e.g., in *We have almost a team here,* in which the quantifying expression may be diagrammatically represented as Fig. 4.4.

Noun phrases with adjectival quantification can be similiarly represented, as well as one reading of Accomplishment predicates (the other is plotted as in Fig. 4.2). For example, the scope ambiguity of *Bill almost swam the English Channel* is resolved by shifting the proximative point from the initial boundary of commencement of the swim (which would be schematized as in Fig. 4.2) to the termi-

nal boundary of the object of Accomplishment, as in, *Bill swam almost the English Channel.* This results in the necessity for adjectival quantification (e.g. *entire, all)* for object noun phrases which do not refer inherently to measurable units, thus producing *Bill swam almost the entire English Channel.*

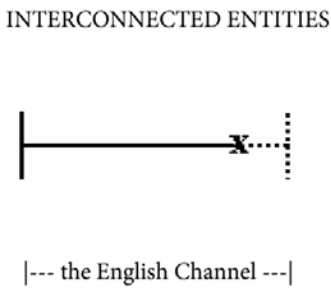

Figure 4.4

(Again, the dotted boundary indicates a predicted, not an actual, demarcation.) *Almost* may also occur with some uses of mass nouns; in, for example, *This soup is almost water,* it is implied that too much water has been added in the making of it, producing a substance which is partly water, partly soup. In such contexts, the mass noun *water* has been construed as having an approach point, in which the entity described by the mass noun is seen to partially overlap into the entity described by another mass term, *soup,* and is not discontinuous with it. This situation may be schematised as in Fig. 4.1, in which the approach marker *almost* may be used to indicate the direction in which the composition of the soup is heading, but the approach phase and the resulting state are not totally discrete, since some of the resulting state may be construed as already present in the approach phase.

In some cases of gradable adjectives, e.g. *bald* (see section 4.5), *almost bald* is also considered as partially overlapping with the absolute state, *bald,* at the same time being a less representative instance of it. Such adjectives can be schematised according to Fig. 4.4, since *bald* has a terminal boundary. Since such states indicate a part-whole relation with the completed state, there is a greater likelihood of a more accurate prediction of the complete state from evidence already present in the partial state, and hence there is less hypotheticality relating to the prediction of the complete state than there would be if there was no part-whole relation. Less easily gradable adjectives, e.g. *almost crazy,* are more likely to be schematised as in Fig. 4.1, since the terminal boundary 'completely crazy' is more arbitrarily construed than when the predicate refers to a measurable quantity. However, it would not be totally accurate to suggest that *almost bald* entailed 'not bald', since part of the complete state of baldness is already present in the approach phase. When

there is less likelihood of conceptualising an approach phase which shows partial representation of the complete state, the sentence becomes either anomalous (for stative situations), or counterfactual (for non-stative events, which can be scaled by time). These are typical of the predicates Keefe (2000) discussed in terms of supervaluationism (4.2.4).

This is why Hitzeman's (1992) example of a count noun referring to a non-gradable, physical object is anomalous: *Martha has almost one beagle.* Such nouns cannot be given any kind of interpretation with *almost* unless they refer to created entities (e.g. *almost a/one cake,* which could be represented as in Fig. 4.4). The reason why certain count nouns and bounded verbs are not direct analogues where approximation is concerned is that time provides the quantifiable scalarity necessary for the expression of an approach point with bounded verbs, and if the count noun has no inherent grading, there is no equivalent scalarity progressing towards a spatial goal without invoking temporal measurement as well (we cannot ask questions like: 'Well, is it going to be a beagle?'). If temporal progression cannot be conceptualised, the expression is unacceptable.[22]

The potential for the negative inferences to be cancelled then, appears to vary according to the environment in which *almost* appears, and with stative verbs, mass nouns, and other time-stable predicates, an approximate representation of their state provides a valid instance of that state without total contradiction of the full representation. On the other hand, with bounded, perfective events, an approximate representation of their state is less easy to construe, and lies outside the conception of the event's internal structure. In such cases there is a stronger inference that the event (or a sub-part of the event) did not occur at all. This kind of interpretation, which revolves around the Aktionsart of the predicate, was also observed by Atlas (1984: 350). The strength of the negative inferences associated with the use of *almost* are therefore hypothesized to be a factor of their co-occurrence conditions, varying according to the presence of conceived boundaries in the predicates over which they have scope, and when the approximate state is actually contiguous with the complete state, the prediction of the complete state is less hypothetical than when the approximate state is not contiguous with it. In the

22. Note that the problem is not necessarily resolved by substituting the indefinite article – *almost a beagle* is just as odd – or by altering the scope of *almost* to include the verb: *I almost have a beagle* does not express the same meaning, and may refer instead to the gradual process involved – registering, veterinary consultation, or settlement of costs – in acquiring one. Even using *almost* to refer to the possession of breeds similar to beagles does not reflect proximative possession, but only the speaker's *claims* to proximative possession; what is expressed in, e.g., *1 almost have a beagle; I have a whippet* (or whatever breed) may be more an expression of the speaker's optimism than of a reality, since a whippet is not an approximative point on the scale of beagle-creation.

former situations, the scale that *almost* grades is one of the internal composition of an entity or state (the state runs through time), while in the latter situations, time provides the necessary scaling (and time runs through the event). Lack of contiguity results in a greater possibility of counterfactual inferences, for example, with perfective verb types. In order to test this hypothesis, a brief survey was conducted, investigating the extent of such variation perceived by individual speakers.

4.4 Testing the co-occurrence conditions

The survey consisted of a small number of sentences which were constructed on the basis of the points discussed above, and in which the variables were bounded and unbounded predicates. Unbounded predicates included a quantified noun phrase (Sentence 1), a gradable adjective (Sentence 2), and a lexically and grammatically imperfective verb (Sentence 3). Bounded predicates included a physical object count noun (Sentence 4), a past Achievement verb (Sentence 5), and a past Accomplishment verb (Sentence 6), both of the last two being lexically perfective verb types. The respondents were presented with a group of sentences of the form *almost P, in fact* P, and asked to list those they thought were contradictory, *in fact P* being the cancelling device used to reveal if there was an implicature present.[23] The number of example sentences was kept to a minimum to avoid the problems of weakening of judgement due to repetitiveness of the task. It was hypothesised that the first three sentences (1–3), in which the item quantified by *almost* was felt to be conceptually unbounded and internally-scaled would invoke weaker implicatures (which would be more easily defeasible) than the last three (4–6). If this were the case, the sense of contradiction in Sentences 1–3 would be predicted to

23. It may be claimed here that the use of the cancelling device, a clause introduced by *in fact/ indeed,* does not rule out the possibility that the second clause might have represented an afterthought, or a self-correction. Such *in fact* clauses were amongst those used by Horn (1972: 49) and later summarised by Levinson (2000: 81) as cancelling diagnostics for scalar implicatures, in that the possibility of contrast could be raised in the same context without contradiction. However, they are criticised by Horn (2002) as inadequate for determining cancellation with *almost*, because of the possible afterthought interpretation. This may have affected the understanding of the first survey sentence, but it would be difficult to imagine that the respondents of the survey would consider that they had been questioned repeatedly throughout on the contradictions of after-thought corrections.

be less obvious to the respondents than for Sentences 4–6. The survey and results are summarized below.

(38) *The survey sentences*
1. Almost all, in fact, all of the wheat crop was saved.
2. Sam is almost bald, in fact he is bald.
3. When I saw Sue she was almost running, in fact she was running.
4. The animal in the cellar was almost a mouse, indeed it was a mouse.
5. John almost fell off the bridge, in fact, he did fall.
6. The dog almost crossed the road, in fact, it crossed the road.

The results are listed in Table 4.1.

Table 4.1 Distribution of the assessment of contradictory sentences

Sentence	No./20	%
1.	11	55
2.	10	50
3.	12	60
4.	19	95
5.	15	75
6.	18	90

No. of respondents listing all sentences as contradictory: 9/20 = 45%

The limited data clearly suggests that opinions vary as to whether or not a sentence with co-occurring *almost P* and P are contradictory, and that there is a general tendency for externally, temporally-scaled, bounded perfective verbs (Sentences 5–6) to have higher evaluations of contradiction (75%–90%) than internally-scaled count nouns, imperfective processes, or stative qualities (50%–60%, Sentences 1–3). (Sentence 4 showed neither internal scaling nor external, temporal scaling, and thus scored the highest.) The differences in the evaluations of contradiction indicate that an entailment reading of *almost* is not always present, suggesting instead the presence of counterfactual implicatures varying in strength according to environment and speaker intuitions. Given that temporally-bounded situations are more likely to be listed as contradictory according to the survey, it may be hypothesised that implicature strength increases in such environments, i.e. those of more specific conceptual distinction. The evidence of varying strength of the implicatures would suggest that the counterfactual implicatures could be described as conventional implicatures in certain contexts, but not in others in which they are more easily cancellable. The implications of such results are discussed in section 6.

4.5 Determining implicature strength

It is recalled that in section 4.1 implicature scales were shown as expressing differences of degree between alternate values which stood in a part-whole relationship with one another. In such scales the coexistence of a weaker and a stronger alternative does not suggest contradictory values, rather, it suggests inclusive values, e.g. *some, all.* For *almost* to arrive on a similar implicature scale, then, the relationship of *almost P* to P would similarly need to be expressed as an inclusive relationship. It is seen that to utter a statement *some X are Y* is not contradictory to *all X are Y,* merely less informative, and since it only implicates *it is not the case that all X are* Y, the inference can be considered pragmatic in nature. If the same were to be said of an utterance using *almost,* then it would also be possible to establish that the negative inferences surrounding the use of *almost* are pragmatic implicatures, and not semantic entailments. The data presented in section 4.4 seem to suggest that this is plausible. But the question remains why some environments are more likely to yield a contradiction analysis than others.

The expression of a bounded, past perfective event is taken as having terminated and is therefore unalterable in the subjective viewpoint of the speaker. As a result, it becomes more highly factualized, and when co-occurring with proximatives, licenses stronger implicatures than a time-stable, stative verb phrase, to the point at which the implicature is interpreted as either conventionalized or an entailment. When *almost,* then, is used to quantify time-stable entities such as quantifiable nouns and stative verbs, it is more easily defeasible. When used to quantify realized past perfective events, it is not so easily defeasible since the realisation of a perfective event profiles the *termination* of the event, and *almost P,* which indicates the approach stage of an event, not an actual event, cannot be conceptualised as co-occurring simultaneously with the termination of the event *P* in the short time period in which such punctual events take place. The termination of the event, in turn, indicates a greater potential for factual recall by the speaker, since it has already passed at the moment of speaking. The enforcement of the implicature, then, depends only on the *potential* for the speaker to utter a statement about which true facts are known. As this potential increases, so the likelihood of defeasibility decreases.

It was noted in Ziegeler (2000a; 2000c) and in the Introduction to this chapter that implicatures of counterfactuality may therefore be most determinable in situations in which the hearer's evaluations of the speaker's evidential basis for expressing a hypothetical or predictive statement are the highest. It was also stated that a counterfactual implicature is worked out by the heater's assessment of the speaker's knowledge of facts to the contrary of a hypothetical utterance. In other words, there must be sufficient indication in the context of the utterance or in cer-

tain grammatical devices to enable the hearer to assume the speaker's first-hand knowledge of the facts justifying the construction of a counterfactual hypothesis. For this reason, counterfactual implicatures were considered most often associated with environments indicating high information-density. The situation was summarised in the form of a single principle, which was labelled the *CFI*-(Counterfactual Implicature) *Principle:*

(39) **The CF1-Principle:**
The strength of an implicature is directly proportional to the specificity conditions in which it is located.

(39) could also be paraphrased as: 'The strength of an implicature is directly proportional to the information density of its context'. This statement, of course, only takes into account facts about the lexical content or the grammatical marking of the expression; however, specificity conditions are not only related to information density, and can be conveyed even by prosody in the utterance, as recently discussed by Spenader (2004), under the labelling of modality realisation. In her terms, phonetic focus allows the hearer to interpret a contrast between the truth of some earlier information and the more specified truth value of the element in the utterance that the speaker is focusing on. The most frequently placed phonetic focus or emphasis is on the finite verb; e.g. *Oh look! I* had *remembered to screw on the lid* (Spenader 2004: 113), since this asserts the truth value of the entire statement in positive sentences. Spenader does not discuss other points of sentence focus (for example, if the focus were placed elsewhere in the sentence: *I had remembered to screw on* the lid (= ' I had remembered to screw on *the lid* (not the *door-handle*)'), which creates the implicature that any other possible alternatives do not apply. Prosody and contrastive phonetic focus, therefore, provide an additional means of creating the specificity conditions in which a counterfactual implicature may be located, signalling to the hearer that the item in focus is conceptually bounded from the remainder of the utterance, if not grammatically bounded (thus illustrating Levinson's (1995) interpretation of the Quantity 1 maxim, the Q-heuristic: 'what is not said is not the case'). Thus, inferences similar to Q-based implicatures are produced by means other than quantity of expression, and conceptual markedness provides the illusion of factual definition from which counterfactual inferences may be abstracted.

In linguistic terms, it was hypothesised that by increasing the information specificity of an utterance, or the linguistic conditions usually associated with higher information specificity, the hearer's evaluations of the factual backing which justifies the utterance of a counterfactual statement will be augmented. Therefore, in a situation in which the specificity and/or factuality of an utterance is expected to be greater, as, for example, in past, conceptually-bounded events, or in contexts about

which the speaker is better informed of the facts, an implicature of highest hypotheticality or irrealis will be probable, having the potential for factual support. Counterfactuality, then, runs parallel to factuality, and is not its polar opposite but merely an abstraction from the real world.

The formalisation of the *CFI-Principle* appears to coincide with the requirements of Q-based implicatures for the speaker to provide as much information as possible, implicating an upper-bounding conversational implicata suggesting that this is the maximum knowledge available (Horn, 1984:13). Counterfactuality is then, in principle, deduced from what is left unsaid. However, the CFl-Principle introduces the notion of information density, not just quantity, as well as the necessity for the hearer to evaluate the factual evidence from which a counterfactual statement is abstracted. Information density may or may not always overlap with quantity of expression, but the speaker's responsibility in ensuring the availability of a factual premise for a counterfactual utterance could then involve the operation of the second maxim of Quality discussed by Grice (1975: 46): 'Do not say that for which you lack adequate evidence'. Perhaps there is reason to speculate on the possibility of a scale of factuality in which Quality and Quantity may be measured in hypothetical or irrealis situations. Such speculations, however, should be left to future inquiry (see also f.n.9).

4.6 Interim summary

The present paper analyses the meaning of *almost* in terms of a strong counterfactual implicature (either a conversational or a conventional one), and argues against the claims by Hitzeman (1992) and others that the negative inferences associated with the proximative adverb are an entailment. The explanation offered by Sadock (1981) that the implicature associated with *almost* is stronger than other scalar implicatures (e.g. from *some X* to 'not all X') can now be viewed from the perspective of co-occurrence conditions and grammatical environment, and the potential for the implicature to be cancelled may be seen to vary according to such conditions. Tested on individual intuitions, a number of decontextualised examples produce varying opinions of the strength of the inference, which does not produce 100% rates of cancellability in any one environment. This is evidence that the entailment analysis cannot hold for all speakers in all environments, and that it may be possible to hypothesise a continuum of increasing or decreasing strength with certain types of generalised conversational implicatures, with the possibility of cancellation being reduced proportionately to the rising level of strength of the implicature. Because of the presence of such a continuum, and the variable degrees of defeasibility according to co-occurrence conditions, the present chapter does

not commit to a single definition of either a conversational or a conventional implicature associated with *almost,* but suggests that the possibility of a conventional implicature may be present in some contexts more than others. Since conversational and conventional implicatures are distinguished by defeasibility (amongst other features), such a hypothesis claims for neither a semantic nor a pragmatic description of such items, but one which links the two domains in a gradient relationship with one another. For proximatives, at least, it may be possible to conceive of a continuum running from conversational implicature (through conventional implicatures) to entailment (measured statistically), with aspectual environment providing the means of grading. Similar ideas were also proposed by Atlas (1984; 2005), but without the support of empirical testing.

Evidence for the presence of implicatures comes from (i) the fact that the negative inferences associated with *almost* would suggest a prediction, which is an expression of only possible truth, not actual truth, and which, furthermore, is derived by means of R-based implicatures; (ii) the evidence of proximatives and ANA, a gram expressing counterfactuality, in other languages in which the meaning is grammaticalized as a metonymic inference from the cancellation of a R-based implicature – the source for this gram is often the same lexical source that derives predictive meanings across languages, a verb of volition; and (iii) the variation with which contradictions are assessed by native speakers when *almost* is used in different aspectual environments. Other evidence is provided in the fact that cancellation with negative minimisers (e.g. *not even slightly*) produces anomalous results, since such expressions are the true antonyms of proximatives, rather than the maximal expressions (the complement, *P*) to which proximatives are oriented. The negative inferences associated with *almost* can be seen to be non-defeasible in many instances, but can be most easily cancelled when quantifying unbounded, internally-gradable entities and states, indicating that if the meaning is a negative entailment, it is not necessarily associated with all aspectual environments. On the other hand, the strongest implicatures of counterfactuality arise in perfective or bounded environments; this is because the scale is a temporal scale, and the stronger element *P* is less likely to be in contiguity with its weaker approach phase, therefore implying greater hypotheticality of the complement it predicts. The evidence from the grammaticalisation of ANA grams in other languages also suggests that perfective, past events are those most often associated with counterfactual implicatures. The phenomenon of increasing and decreasing implicature strength is a factor of the potentiality provided by the context for generating an implicature, and this is summarised in the *CFI-Principle.* The effects of the Principle are clearly seen in the behaviour of *almost* in different contexts, as shown in the data from a small survey of English. It was also argued that proximative expressions could be

described as supervaluative (Keefe 2000) in that they revealed a truth-value gap: in this way they are also reflective of modal expressions across languages.

Thus the pragmatic derivation of counterfactual modal meanings from a marker of aspectual proximity to an event is intrinsically linked to the aspectual nature of the predicate over which the proximative has scope. In this way, it is possible to suggest that modality interacts very closely with aspect in a scalar environment in which proximative aspect is itself identifiable as an element on the scale of perfectivity, whether this can be expressed verbally, through lexical aspect, or nominally, in reference to complete entities and objects. While the Principle has been shown to be most effectively applied to counterfactual situations in the use of *almost,* it is not to suggest that it may be limited in the extent of its application to such contexts. The obvious next task is to test the Principle more extensively in other counterfactual domains, or to determine whether the same counterfactual implicature analysis which relies on lexical aspectual differences in English can be found in other languages. For this reason, a similar study was conducted on the presence of counterfactual implicatures in proximative adverbs in Mandarin Chinese. This study will be described in the remainder of this chapter.

4.7 Proximatives in Chinese[24]

The analysis above suggested that higher degrees of counterfactuality are associated with perfective, rather than imperfective, aspectual predicates when a marker of aspectual proximity is used to quantify the predicate. The possibility of accounting for the negative inferences surrounding *almost* as entailments can be weakened considerably by evidence of the variability with which English native speaker informants attribute contradictions to instances of proposed cancellations of the negative inferences when the aspectual environment is also varied. Such data, however, were limited to English, and only a small group of speakers, haphazardly selected. In the following study, the same surveys used above are applied to a group of Chinese speakers, in order to investigate whether the implicature account may hold for another, genetically-unrelated language with a markedly different aspectual system. In addition, the Chinese tests include examples using the expletive negation discussed by Zhu (1959), Li (1976), Peyraube (1979), Biq (1989), Lü (2000), and also for Spanish by Horn (2002) and Pons Bordería and Schwenter (2005), in

24. Sections of this chapter formed the basis of a paper which was presented at the 9th International Pragmatics Association Conference, Riva del Garda, Italy, 10–15 July 2005. I am grateful to the audience of the conference for many useful comments. Any shortcomings are naturally my own.

which the negative inferences are expressed overtly as preverbal negation. This has been held in such accounts to increase the possibility of an entailment relationship between the proximative and the negatively polarised meaning contained in it. The result is ambiguous between a meaning equivalent to 'barely' in cases where the negation is not interpreted as expletive (canonical negation, as in (13)), while in others, the same meaning as for non-negated *almost* is obtained; i.e. that the event referred to in the complement did not take place.[25] Such cases constitute yet another problem for research on the proximative aspect. It is suggested below that alternative explanations may be supplied to account for the way in which the negative inferences can be overtly expressed as part of the meaning of a proximative, and such explanations call upon the mechanisms of scalar Quantity implicatures which, as discussed above in section 4.1, behave like modal verbs in modifying the quantity of truth that can be ascribed to the complement of the proximative. Earlier studies of the development of modal verbs in English and in Hungarian (Panther and Thornburg 1999; Ziegeler 2001) have revealed that altering the linguistic environment of the modal verb affects the precedence of the complementary Quantity implicatures that accompany modalised expressions, either towards the realisation of the complement or towards its non-realisation. Evidence for a bi-directional status for the inferences accompanying proximatives has also been provided in studies of their grammaticalisation in other languages, as shown for Bulgarian (Kuteva 1998), and the negative inferences are seen to develop gradually over a historical period of time (as discussed above in section 4.2.3.1). However, the tendency for expletive negation to attract only to perfective, bounded predicates in Chinese is an important point in illustrating the relevance of aspect to the present debate and is discussed further below. It is with such evidence that a further investigation of the area of proximative meaning is undertaken, using comparative data from Chinese.

The following discussion will examine briefly the use of pleonastic negatives in Spanish and Chinese, and empirical data exemplifying the variability with which contradictory assessments are attributed by native speakers of Chinese to translations of the sentences listed in (38) will be examined. The possibility of a dispreferred inference holding pragmatic precedence in the determination of the polarity of the inferences will also be considered.

25. The reverse proximative *barely* is another case in point; this requires a more fine-grained discussion than scope will permit in the present study. However, it is worth considering that some instances of negated proximatives in Chinese would be plausible only with expletive interpretations, if any, e.g. (44) below would suggest with a canonical interpretation that the subject's death was a desired or hoped-for event (Catherine Zheng, p.c.).

4.7.1 Pleonastic or expletive negation and proximatives

In a recent and quite ground-breaking study, Pons Bordería and Schwenter (2005) and also Schwenter (2002) uncovered a phenomenon occurring in Spanish in which the negative inferences associated with proximative adverbs in Spanish (*por poco* and *casi*) were found to be asserted in the form of negative adverbs co-occurring with the proximatives and in many cases, expressing the same as their positive counterparts. For example (Pons Bordería and Schwenter 2005):

(40) a. *Por poco se mata*
'She was almost killed'

b. *Por poco no se mata*
'She was almost killed'

c. *Por poco no sale*
'She almost didn't leave'

In both the negated proximative and the non-negated use in (40a-b), the meaning can be the same, i.e. that the subject referent was not killed. In (40c) the non-expletive (canonical) negative meaning is seen to continue to co-exist alongside the expletive. Pons Bordería and Schwenter believe that the appearance of pleonastic or expletive negatives with *por poco* ('almost, nearly') follows alongside the changes which have occurred since the 13th century in Spanish negation patterns, in that it was more frequent at earlier times than after the 15th century. They attribute this to a parity with the preverbal negation in Spanish at the time, which had to co-occur in certain contexts with negative indefinites, giving the appearance of double negation but with the meaning of single negation. They maintain that the loss of the proximative preverbal negative coincided with the loss of preverbal negation in general, but that in present-day Spanish, the redundant negation is returning, probably for reasons of emphasis or to accentuate the negative inferences which are there anyway.

Schwenter (2002) finds that speakers of Valencian Spanish are likely to use similar expletive negation using the proximative adverb, *casi*. In the case of *casi*, though, the non-negated form can be used to express negative proximity also (Schwenter 2002):

(41) ¡*Casi* *llegas*!
almost you:arrive
'You almost did not arrive!'

That is, in the use of proximatives in Spanish, there seems to be no hard and fast rule whether they are negatively polarised or positively polarised; the use of preverbal negation does not always depend on whether the speaker wishes to express

a meaning equivalent to 'barely'. Pons Bordería and Schwenter (2005) believe that the meaning of the proximatives is composed of a proximal component and a polar component, but that the proximal meaning component of the adverb was in place earlier than the polar meaning, and the same was claimed by Schwenter (2002) for *casi*. The explanation for this apparent interchangeability of polarity in each case has been attributed to the possibility that although the polarity meanings are entailed, they are not asserted, i.e. 'assertorically inert' as discussed by Horn (2002). This had also been provided as the reason in (16–18) for the infelicity of causal clauses subordinated to proximative main clauses, as noted earlier (section 4.2.1).

The discovery of expletive negation in some languages may present problems for an implicature account as it would not be expected that an implicature should be strong enough to allow for explication in the context (hence Horn's (2002) analysis of negation in proximatives as normally 'assertorically inert' entailments). However, it will be seen from the study below that even in languages with expletive negation, the contradictions associated with proximatives and cancelling elements are only variably accepted by many native-speaker informants. The only factor that the presence of expletive negation does outline is the independence of the polar meaning from the proximal meaning. But, as demonstrated in (29), the polar meaning is seen to emerge out of the proximal meaning, via the cancellation of an R-based implicature in which the polar orientation is positive.

A similar example of the interchangeability of the polar component of the meaning comes from the use of proximatives in Mandarin Chinese. The first observation of this phenomenon comes from a brief article by Zhu (1959: 435) in which he attributed the use of the pleonastic negative with *chā yīdiar*/*chā yīdian* to a co-ocurrence with undesirable events. Zhu adds that the use of the negative may depend on the speaker's assessment of whether the situation can be undesirable or not. Li (1976) presents the following examples of the use of the proximative adverb, *chā yīdianr* (1976: 528):[26]

(42) *Tā chā yīdiar meí zoǔ*
he miss-a-little not leave
a. 'He barely left'
b. 'He almost left'

26. Li (1976) uses the Romanisation of the form: 差一点, as *chā yīdiar*. The glosses are all Li's.

Li adds that the (a) reading is the expected reading and the (b) reading is the unexpected reading, and that without the negative, the proximative is not ambiguous:

(43) *Tā chā yīdiar zoǔ le*
he miss-a-little leave aspect
'He almost left'.[27]

Li also attributes the tendency for the use of negatives with the (b) reading in (42) to the presence of discourse factors, or if the event predicated of *chā yīdianr* was something undesirable, for example (1976: 534):

(44) *wǒ de māma chā yīdiar meí sǐ*
I genitive mother miss-a-little not die

Under most readings, the translation given for (44) would be 'My mother almost died', since the event that is predicated is something undesirable or unfortunate. Li also mentioned that the utterance of a negative expression always carries with it the presupposition of a corresponding positive one, something that has been observed by Givón (1975) and later by Horn (1989), as noted in 4.2.1. The presupposed positive is held by Li to have been ellipted, leaving the negative standing alone, and meaning that the unexpected reading for examples like (42) is a result of a kind of interplay between presuppositions and assertions in the meaning of the negative proximative. For a pragmatic account, the explanation is somewhat difficult to grasp, as it is heavily influenced by the generative syntactic trends of the time, but it may provide the basis for a more finely-tuned explanation below.

Peyraube (1979) also discusses proximatives in Mandarin Chinese, suggesting that there are differences between the uses of different adverbs meaning 'almost': *chàyidiǎnr*, *chàbuduō*, and *jīhū*, and that *jīhū* is the only form that has a uniquely adverbial function (but see the examples in (51), which were translated by a native speaker). The main differences between *chàbuduō* and *jīhū* are that in the environment of measurable quantities, *chàbuduō* means 'approximately' and *jīhū* means 'almost', as in the following (Peyraube 1979: 52):

(45) *tā hé wǒ chàbuduō yíyàng gāo*
'Il est a peu près de la même taille que moi, ou plus petit, ou même de la même taille'.
('He is close to the same height as me, or shorter, or even the same height'.)

27. The aspect marker *le* is not explained in Li (1976), but it is possible that it refers to imminence, as one of the functions of sentence-final *le* discussed by Li and Thompson (1989). Chappell (1992: 79) refers to the use of perfectives in Chinese languages to refer to completion, whether actualised or projected.

(46) *tā jīhū hé wǒ yíyàng gāo*
'Il est nécessairement plus petit que moi.'
(He is necessarily shorter than me.)[28]

It would seem then, that the polar component of the meaning is not conventionalised in all the forms expressing proximity, though the tendency is for *jīhū* to express counterfactually proximative meanings. Peyraube also compares *chàyidiǎnr* and *jīhū*, suggesting that the only main difference between the uses of these two proximatives is in mode used, so that the former is used mainly in speaking, while the latter is used mainly in the written form. However, it may also be seen that in non-past contexts, *jīhū* is associated with the realisation of its complement, while *chàyidiǎnr* cannot be used in the same contexts (1979: 55):

(47) a. *tā jīhū sǐ le, qù mǎi guāncai ba!*
'Il est presque mort, va acheter un cercueil!'
(He is nearly dead, go and buy a coffin!)

b. * *tā chàyidiǎnr sǐ le, qù mǎi guāncai ba!*

Thus, it may appear that while *jīhū* can express counterfactuality with measurable quantities as complements or in past time reference, it is the more likely choice of adverb for present time reference, and *chàyidiǎnr* has developed stronger inferences of counterfactuality and cannot be used in present time reference contexts to express imminence of an event or state (non-counterfactual, predictive uses). The difference between all three items, from all appearances, may be that the least negatively polarised is *chàbuduō*, followed by *jīhū*, and then *chàyidiǎnr*, which has more restrictions on its uses (i.e. *jīhū* is more 'optimistic' than 'pessimistic' *chàyidiǎnr*, which occurs more frequently with adversative clause conjuncts):

(48) a. *tā jīhū yǒu liùbái mǔ dì, zhèn shi ge cáishu*
'Il a presque quarante hectares, c'est vraiment un richard!'
('He has nearly 40 hectares, he's really a rich man!')

b. *tā chàyidiǎnr yǒu liùbái mǔ dì, jiéguǒ fùqin méi sǐ, shénme dōu méi dédào*
'Il a failli avoir quarante hectares, mais son père n'est pas mort et il n'a rien eu.'
(He has nearly 40 hectares, but his father hasn't died yet, and he has none of it.')

The difference, then, between the optimistic *jīhū* and the pessimistic *chàyidiǎnr* is an indication that the polarity is more flexible in the former than in the latter (this can also co-occur with counterfactual complements). Peyraube also discusses the

28. The glosses from French to English are my own (DZ), not Peyraube's.

ambiguities pointed out by Li (1976) for *chàyidiǎnr*, and reiterates the tendency for the negative, *meí*, to be used when the event complemented of *chàyidiǎnr* is an unfortunate or undesirable event, resulting in a reversal of the polarity. The use of adverbials expressing fortunate outcomes can disambiguate the canonical negative polarity from the expletive in Chinese (Peyraube (1979: 61):

(49) a. *tā chà yidiǎnr méi zǒu, xìngkuī yǒu rén bǎ tā jiàozhu le*
'Il a failli partir, heureusement que quelqu'un l'a retenu'
(He almost left, fortunately somebody held him back'.)

b. *tā chà yidiǎnr méi zǒu, kěshì wǒ bǎ tā gánzǒu le*
'Il a failli ne pas partir, mais je l'ai chasse'
(He almost didn't leave, but I chased him out'.)

In (49a) the expletive reading is accompanied by the adverb *xìngkuī* (fortunately) to disambiguate the interpretation from one in which the counterfactual interpretation may be one that was desirable. Peyraube provides no further comment on the use of the expletive or pleonastic negation in Chinese proximatives, except to suggest that their interpretation is context-dependent.

Biq (1989) also discusses the pleonastic negation of proximatives in Mandarin Chinese, and concludes that, rather than simply being a case of an undesirable situation motivating their use, it is an unexpected, or an unlikely situation; i.e. they are marking a situation which is counter-to-expectation, rather than counter-to-desire. One example of such a use is the following, in which the form *chadianr* is used (Biq 1989: 79):[29]

(50) [*Diana wangfei fangwen Meiguo de shihou wo zai Huashengden*.]
Diana princess visit America NOM time I LOC Washington
Nei tian wo qinyan kanjian ta le jiu chadianr mei
that day I with-one's-own-eye see-perceive her PRT just almost NEG
gen ta wo shou!
with 3SG shake hand
'When Princess Diana visited the United States, I was in Washington. I saw her with my own eyes that day, and almost shook hands with her (but didn't)!'

Biq adds that such uses express counterfactuality that is contextually anomalous and beyond the speaker's expectations (1989: 80), or remarkable. In (50) it would not be undesirable for the speaker to shake hands with Princess Diana, but the event would be so unlikely that it would not be expected to occur. Thus, the use of the negative is said to be marking the speaker's evaluation of the realisation of the

29. Big (1989) refers to the form *chadianr*, a variant of *chayidianr*/*chayidiar*, meaning 'lack a little', 'almost'. There are no tone marks in Biq's original examples.

predicate event (1989: 80), which in such cases, would be remarkable if it did occur. This is an interesting observation, since the overlap between counter-to-fact and counter-to-desire has been observed in other languages (Akatsuka 1997), as noted in the Introduction to this chapter. Akatsuka and Clancy (1993) found that for Japanese and Korean children, the acquisition of counterfactual and hypothetical conditionals took place via the acquisition of deontic modality expressing the speaker's preferences for a desired outcome of a situation. Biq does not suggest it, though it is clear from the account that some reference to negative reinforcement is alluded to, and this function is found in reference to counter-to-desire uses as well.

The examples listed in the literature so far all seem to illustrate a particular kind of 'double negation' is in evidence, i.e. a reinforcement, but one in which rather than an overt negative being reinforced, it is an implicit negative. Lü (ed., 2000) also mentions the use of negatives with *jīhū*, and suggests that they are used whenever an unfortunate or undesirable situation is predicated of the proximative adverb. It should be noted at this stage that in none of the examples of expletive negation in the literature on Chinese is there the possibility of the expletive negative form being *bù* (不). The use of *méi* (没) is normally restricted to perfective predicates, so that it seems highly likely that expletive negation will not occur with imperfective predicates – this is important for investigating the reasons why it occurs, as will be seen below.[30] In the English study, imperfective predicates did not score highly on contradictory interpretations – thus the negative inferences are weaker in such environments. The only environment in which expletive negation is likely to occur (with perfective predicates) is also that most likely to produce counterfactual inferences, as shown by the data so far. The examples provided to illustrate this by Lü (ed., 2000) have been used as Questions 7 and 8 of the survey questionnaire discussed in the next section. It now remains to examine the interpretation of a number of proximative examples by Chinese native speakers, to discover to what extent the entailment vs. implicature argument may hold.

4.8 The Chinese study

The sentences in the English study were all translated idiomatically into Mandarin Chinese by a native speaker and distributed electronically to 26 students of Shan-

30. A brief survey of examples of *jīhū* was taken from a contemporary novel (*Pingfan de Shijie*, by Lu Yao) and 8 examples of the adverb were found accompanied by *bù*. In each of these, the verb used was either stative or otherwise the context supplied the meaning of negative permanent duration ('almost never'). None of them could be interpreted as having expletive negative meaning. I am grateful to Bao Zhiming for assistance in locating these examples.

tou University, Guandong, China.[31] The informants were all students of the Shantou University, and were undergraduates at first and second year level. The return of the surveys took place over approximately a month. Thus, it is not known how long each individual informant took to complete the survey; however, this was not felt to be important. Two additional sentences (7 and 8) were added to the original six, translated into Chinese, and these were adapted from Lü (2000) as examples in which expletive negation could be found, as noted above. It should be noted that the proximative form used to translate the sentences was *jīhū*, not *chàyidiǎnr*, possibly because, as Peyraube (1979) suggested, the form is preferable for written usage.

The survey was presented as follows:

(51)

1。几乎 所有的， 事实上 所有的 小麦 收成
Jīhū suǒyǒude, shìshíshang suǒyǒude xiǎomài shōuchéng
almost all.NOM in fact all.NOM wheat crop
都 保存 下来了。
dōu bǎocún xià lái le.
all preserve COMP.PRT
'Almost all, in fact all of the wheat crop was saved'.

2。萨姆 几乎 秃 了，事实上 他 是 秃 了。
Sa Mu jīhū tū le, shìshíshang tā shì tū le.
Sam almost bald PRT in fact 3SG EMP bald PRT
'Sam is almost bald, in fact he is bald'.

3。当 我 看见 苏 时 她 几乎 在 跑 事实上
Dāng wǒ kànjiàn Sū shí, tā jīhū zài pǎo, shìshíshang
When I see-perceive Sue time 3SG almost LOC run in fact
她 在 跑。
tā zài pǎo
3SG LOC run
'When I saw Sue, she was almost running, in fact she was running'.

4。地窖 里的 动物 几乎 是 只 老鼠， 事实上
Dìjiào lǐ de dòngwǔ jīhū shì zhǐ lǎo shú, shìshíshang
cellar in NOM animal almost COP CLASS mouse in fact
它 就 是 只 老鼠。
tā jiù shì zhǐ lǎo shú
3SG EMP COP CLASS mouse
'The animal in the cellar was almost a mouse, indeed it was a mouse'.

31. I am indebted to Catherine Zheng for her assistance with the translations, and to Dennis Li Renzhi for his selfless assistance in distributing the surveys and collecting the data.

5。约翰 几乎 从 桥 上 掉 下 来了，事实上
Yuē Hàn jīhū cóng qiáo shàng diào xià lái le, shìshíshang
John almost from bridge down fall COMP.PRT in fact
他 掉 下 来了。
tā diào xià lái le.
3SG fall COMP.PRT
'John almost fell off the bridge, in fact he did fall'.

6。这 只 狗 几乎 穿过 马路 了，事实上，
Zhè zhǐ goǔ jīhū chuānguò mǎ lù le, shìshíshang.
this CLASS dog almost cross road PRT in fact
它穿过 马路了。
tā chuānguò mǎlù le
3SG cross road PRT
'The dog almost crossed the road, in fact it crossed the road'.

7。他 几乎 没 摔倒， 事实上， 他 没 摔倒。
Tā jīhū méi shuāidào, shìshíshang tā méi shuāidào.
3SG almost NEG fall in fact 3SG NEG fall
'He almost didn't fall, in fact he didn't fall' [canonical interpretation]
'He almost fell, in fact he didn't fall' [expletive interpretation]

8。船 几乎 没 翻 了 底， 事实上 翻 了 底。
Chuán jīhū méi fān le dǐ, shìshíshang fān le dǐ.
boat almost NEG capsize ASP COMP in fact capsize ASP COMP
'The boat almost didn't capsize, in fact it did capsize' [canonical interpretation]
'The boat almost capsized, in fact it did capsize' [expletive interpretation]

It should be noted that some of the respondents considered some of the translations to be not typically reflective of natural usage, though all of them responded to each sentence. Thus the comments were most likely more expressive of their uncertainty as to what the exercise was intended to convey (they were trying to get 'correct' answers). The results are shown in Table 4.2.

No. of respondents listing all sentences as contradictory: 8/26 (31%)
No. of respondents assessing Sentence 7 as not contradictory and 8 as contradictory (expletive interpretations): 8/26 (31%).
No. of respondents assessing Sentences 7 as contradictory and 8 as not contradictory (canonical interpretations): 7/26 (26%).

Table 4.2 *Jihu* surveys. Distribution of the assessment of potentially contradictory sentences (Chinese students, undergraduate levels)

N = 26

Sentence	No./26	%
1.	22	84.6
2.	12	46
3.	14	53
4.	16	61.5
5.	21	80
6.	19	73
7.	11	42
8.	11	42

Note that the number of respondents listing sentences 1–6 as contradictory is much lower than for the English survey, which showed 45% of respondents opted for entailment interpretations, regardless of the aspectual conditions of the environment. The last two sentences, which were not part of the former survey, were presented in such a way that the pleonastic or expletive negation pattern could be represented by 'contradictory' answers for sentence 8, and 'not contradictory' answers for sentence 7. On the other hand, the pattern of canonical negation would be represented by the pattern: contradictory for sentence 7 and not contradictory for sentence 8. It is seen from the results that as far as these two patterns of usage are concerned, there is not a great deal of difference – approximately the same number are consistent in giving the sentences the pleonastic interpretation as for the canonical negation pattern (only 5% of difference).
The results of both surveys can be presented in Table 4.3.

Table 4.3 Distribution of the assessment of potentially contradictory sentences (Chinese and English data)

Sentence	English (%)	Chinese (%)
1.	55	84.6
2.	50	46
3.	60	53
4.	95	61.5
5.	75	80
6.	90	73

Table 4.4 illustrates the mean and the standard deviation of the data in Table 4.3.

Table 4.4 Mean and standard deviation of the assessments of potentially contradictory sentences (Chinese and English data, sentences 1–6)

	English	Chinese
Mean (%)	70	66.3
Standard deviation (%)	18.84	15.28

4.8.1 Discussion of results

Apart from sentences 7 and 8, the results show a general tendency for the sentences (1–6) to be evaluated with lower levels of contradictory responses than for the English speakers in 4.4, the main exception being sentence 1, which receives a contradictory interpretation of 84.6% for the Chinese study, and only 55% for the former study. Perhaps it is just the case that the Chinese speakers considered the difference between *almost all* and *all* to be more salient than the English speakers, because there is a quantifiable upper boundary. It is also possible that in languages without a binary grammaticalised distinction between perfective and imperfective, such as English, there may be a tendency to *coerce* aspectual boundaries where they do not exist (as suggested by Hitzeman (1992), and as noted earlier in 4.2.4). One member of the Chinese group commented on this sentence: 句子相矛盾，"几乎所有的"说明"还有一些"没有保存下来，"并不是所有的" ("The sentence seems contradictory, 'almost all' has the meaning 'there is still a little remaining', 'it hasn't been completely stored away', moreover, it's not all of it"). The apparent contradiction, therefore, seems more evident in predicates expressing measurable quantities than elsewhere in the environments given.[32]

There was only a 4% difference between sentence 2 of the former study (50% contradictory) and that of the Chinese study (46% contradictory), both groups agreeing that stative predicates with upper boundaries could be classed as less contradictory when a proximative state is compared with the expression of the absolute state. For sentence 3, which uses the progressive, an imperfective aspect in both English and Chinese, there was also close agreement – 53% of the Chinese group as against 60% of the Australian group considered the sentence to contradict itself. This indicates that for both groups, there is a reluctance to accept totally that imperfective predicates can be graded using proximatives. There was a large margin of difference, though, between the two groups for sentence 4. The sentence

32. The relatively low score for the English speakers might also reflect an initial tendency to consider the *in fact* cancellation an afterthought (which as noted earlier would not be likely to be upheld throughout the survey). It is not known whether *shìshishàng* carries the same possibilities of meaning in Chinese.

was considered to be contradictory for 95% of the English study, but only 61.5% for the Chinese study. The reason may be related to the understanding by the Chinese group that *jīhū* was being used more to express the speaker's uncertainty over what s/he saw in the cellar than the certainty that it was an 'almost-mouse' that was seen, as commented by one respondent:

不矛盾。几乎是只老鼠是一种不肯定的说法,但事实上它真的是一只老鼠。("Not contradictory. 'Almost a mouse' is a kind of uncertain way of speaking, but in fact it really was a mouse.") The awkwardness of construing the sentence with a literal interpretation may be the reason why many other respondents had not been unanimous in assessing sentence 4 as contradictory either.

For sentence 5, in which a punctual Achievement verb is used, the scores for both groups were fairly close also, at 80% for the Chinese group and 75% for the English study. There was quite a deal of difference, though, between the scores for sentence 6: 73% for the Chinese, and 90% for the English data, suggesting that the English speakers found it 17% more contradictory. Perhaps the reason for the difference in this case is that for the Chinese, the use of *jīhū* 'almost', is not ambiguous in Accomplishment sentences as it is in English where it may be read as 'almost beginning + VP' or 'almost completing + VP'. In Chinese, the equivalents of Accomplishments are marked using resultative verb compounds (Tai 1984), and the 'almost beginning + VP' reading is not possible in sentence 6, since it was translated using a resultative compound (*chuān guò*), and thus expresses the fact that the dog was almost across to the other side of the road when the observation was reported. The same speaker who had made the previous comment above commented on his/her reasons for marking this as not contradictory: that at the time the utterance was made the dog had already crossed the road, so in reality it had crossed the road. This last comment illustrates that *jīhū* is capable of rendering inference to the completion of *P*, as well as to its non-completion, for many speakers in the survey.

It is not surprising that the tendency to evaluate the sentences as non-contradictory is relatively lower in the Chinese group than in the former English study. The Australian (English) group has an average of contradictory responses of 70.8%, while the Chinese group has an average of 66.3% of contradictory answers, not a great deal less, but certainly less on particular answers than on others, the top score (84.6%) being much lower than that for the former study (95%). However, the differences remain in both groups close to the mean, as shown in the standard deviations for each group, which are approximately four times less than the means. It is also worth noting that the standard deviations are not that far apart: 18.84% for the earlier study and 15.28% for the later study, suggesting that the data from the two groups can be readily compared. The reasons why it is not surprising that the Chinese group should have lower scores overall are possibly because

in the Chinese aspectual system lexical aspect corresponds more closely with the boundaries of grammatical aspect, such that the use of grammaticalised perfective aspect relies on the notion of *boundedness*, conceptual, temporal or spatial, in the event that it marks (Li and Thompson 1989: 189). Thus, the conceptual boundaries towards which a proximative adverb may be oriented are much more sharply defined by the use of aspectual markers in Chinese than in English where the use of perfective verb marking is not distinguished from past temporality in the tense system. Proximatives in English, then, may be affected by the pragmatic imposition of implicit boundaries on situations and states where they are not actually represented in the aspectual structure. If that is the case, in Chinese, as the above data show, the tendency is for verb classes to remain less affected (than in the English data) by the imposition of such pragmatic boundaries in co-occurrence with proximative adverbs, and the understanding of proximatives may more clearly be governed by the explicit aspect of their complements.

4.8.2 Derived inferences

Although it is interesting to compare the data from two languages in the first six sentences of the survey, this does not account for the data obtaining from sentence 7 and 8 of the Chinese survey. These two sentences were added in order to verify the extent of the influence of the pleonastic or expletive negative reinforcement in the use of proximative adverbs in Chinese, and to determine just how far such a usage has become acceptable. The data show that the pattern in which sentence 7 is not contradictory and sentence 8 is (which would reflect an interpretation of the negative as expletive) is represented only by 31% of the respondents, while the reverse pattern, in which the negation is considered as it would be in English, as canonical negation, is represented by slightly less, 26% of all the respondents. This means that many others showed variation in their interpretations of the two negated sentences. However, the scores for contradictory interpretations are identical in each case, at slightly less than half, 42% for both sentences. The identical scores for contradictory interpretations for both sentences are remarkable: in sentence 7 the contradiction would mean that the respondent was considering the negation as canonical ('he almost didn't fall, in fact he didn't fall' = #'he did fall, in fact he didn't fall'); while in sentence 8, the contradictory score would mean that the respondent was considering the negation as expletive ('the boat almost didn't capsize, in fact it did capsize' = #'the boat did not capsize, in fact it did capsize'). Both sentences refer to undesirable events in their complements, so that there is no bias as far as that is concerned. The distribution, prevaricating at close to half and identical for each sentence, indicates that the interpretation of the negated proximative adverb, even when there is an undesirable event referred to in the

complement, entirely depends on the speaker's choice of whether to interpret the negation as expletive or as canonical.

The data from the use of the expletive negation, co-occurring with the wide variation in the interpretation of such usages as contradictory, do not easily suggest an entailment explanation for the negative inferences surrounding proximatives. In two unrelated languages, it has been shown that the understanding of such inferences may vary from speaker to speaker and from context to context, and that counterfactuality is not always the interpretation most readily obtained. Furthermore, even in a language with expletive negation which could well indicate an entailment analysis, the distribution of contradictory evaluations of proximative sentences still varies according to the aspect of the predicate, suggesting an implicature analysis instead. If the inferences were an entailment, then the scores should be represented as 100% contradictory for at least all of sentences 1–6 in both languages, since, to present knowledge, there is no evidence in the literature so far of entailments exhibiting context-sensitive behaviour. Although the average scores for contradictory interpretations for both languages, according to the present data, are over 50%, they do not represent absolute scores, and there is still at least a 30% margin of variation over the interpretation of proximatives.

The data then strongly compel an interpretation of the counterfactual inferences associated with proximatives to be conversational implicatures, varying in strength according to the environment (as suggested for the earlier study). This means that over time they may become conventionalised and less easily cancellable, as the higher scores demonstrate, and that the tendency will be for any attempted cancellations to be interpreted as contradictions. This may be the case for sentences 4 and 6 in the English data, and for sentences 1 and 5 in the Chinese data, all of which refer to entities or events which can be construed as conceptually bounded, either because they refer to an aspectually bounded perfective verb class or to a bounded count noun. For the rest, though, which refer to states and imperfective processes, an alternative explanation must be given which also accounts for the use of pleonastic negation in sentences 7 and 8 of the Chinese data.

In order to understand the emergence of expletive negation with proximatives, then, and in the contexts in which it occurs, it is necessary to consider the interaction of R-based implicata with Q-based cancelling elements, and to consider that R-based implicata may be basic even in past tense uses of proximatives under the appropriate aspectual circumstances. The frequency of adversatives in co-occurrence with proximatives in many languages (see section 4.2.3) is sufficient evidence, as discussed above, to suggest that the underlying meaning is an R-based prediction of the realisation of *P*, and grammaticalisation studies (e.g. Kuteva 1998) have revealed also that the presence of negative inferences in proximatives crosslinguistically is a gradual development, brought about by their initial co-oc-

currence with adversative clauses (*almost X, but Y*, *therefore* ~*X* – see (27)). In such a development, the negating inferences of the adversative clause may become subsumed into the meaning of the proximative itself (*almost X*), which eventually comes to stand alone, metonymically, for the entire original construction.

If the meanings of proximatives, then, express a basic scalar (R-based) prediction of the type: *W* implicates *S*, then there will be problems in dealing with undesirable or unlikely events referred to in the complements especially when there is no element in the context expressing the adversity or contrast to imply that the unfortunate event did not take place. The link between undesirable or unexpected past predictions and the use of expletive negation is a factor to consider, as it may well be that the expletive negative marker is used pragmatically to articulate the speaker's concerns that whatever is referred to in the predicate will not eventuate. The presence of expletive negation, then, is to explicate what may be otherwise implicated, or desired as implicated but perhaps not strongly enough to guarantee the cancellation of the R-based implicature that *almost P* → *P* (but ~ *P*). Pons Bordería and Schwenter (2005) do not illustrate any historical examples of the expletive use of negation in proximatives accompanied by adversative or contrastive clauses. (49a) is the only example found in Chinese, in which the conjoined clause has a disambiguating function, but it is not clear that even this example is contrastive; it may be simply providing additional information as it is not introduced by an adversative conjunction. The use of expletive negation, then, might not be found to co-occur so frequently in the presence of antiresultative, cancelling clauses of adversity or aversion (see 4.2.1) especially if such clauses can be used to convey through conversational implicatures the same meanings of negation which are explicated in the pre-verbal negative adverb. When such clauses are missing from the context, overt expression of the negative inferences may be motivated into use. However, it remains an open question why, if the negative inferences were strong enough to be described as entailments, there would be a necessity to reinforce them explicitly in environments where the realisation of the event referred to in the complement would be undesirable or unlikely.

Of course, this explanation does not account for the fact that in historical Spanish, the emergence of canonical proximative negation occurs much later than expletive proximative negation (not until after the 16th century). There is the possibility that canonical proximative negation might have been expressed by other adverbs at earlier times, and there is no reason to challenge Pons Bordería and Schwenter's (2005) account that the non-negated proximative emerged at the same time that the use of reinforced negation in other areas of the grammatical system was dropped. The present study does not allow scope to explore all the historical facts about other languages, it merely offers a hypothesis for an alternative, implicature-based account of the appearance of expletive negation founded on the

evidence of native speakers. The obvious next step would be to test the acceptability of expletive negation in proximatives with antiresultative cancelling clauses, in order to determine whether there is any redundancy.

4.8.2.1 *Cancelling expletive negation*

In order to investigate the co-occurrence of negative proximatives with antiresultative cancelling clauses, another study was conducted on a group of 27 Chinese students from the same university as the previous study, the University of Shantou, Guangdong, China (though not necessarily the same students). The students were all first or second year undergraduates aged 20–21 years, and the surveys again were distributed electronically.[33] There was no time limit on the task, which took approximately one month to be returned. The second task was slightly different from the first, in that it took the final two questions of the survey used in (51), but, rather than using explicit cancellation in the form of an assertion, the cancellation was implied in the additional, antiresultative information that followed. The examples used were thus the following:

(51') 请 指 出 下 例 句子 是 否 自 相 矛盾：
'Please state whether the following sentences are contradictory or not'.

1。他 几乎 没 摔 倒， 但是 幸 好 就 在 这 时候
Tā jīhū méi shuāidào dànshì xìnghǎo jiù zài zhè shíhou
3SG almost NEG fall but fortunately just at that moment
他 自 救 了。
tā zì jiù le
3SG self save PRT
'He almost fell/didn't fall, but fortunately, just at that moment, he saved himself'.

2。船 几乎 没 翻 了 底， 但是 幸好，
Chuán jīhū méi fān le dǐ dànshì xìnghǎo
boat almost NEG capsize ASP COMP but fortunately
就 在 这 时候， 拐 了 个 弯。
jiù zài zhè shíhou guǎi le ge wān
just at that moment turn ASP CLASS corner
'The boat almost capsized/didn't capsize, but, fortunately, just at that moment, it turned a bend'.

The hypothesis, on the strength of the above findings, was that if the negative proximative was expletive, then the cancelling clause would be less likely to be needed

33. Acknowledgements are again extended to Dennis Li Renzhi for assistance with the data collection.

to allay the fears of the hearer that the proximity to an unfortunate event meant that the event later took place. Thus, if the negative outcome is expressed overtly in the form of expletive negation, then the addition of a cancelling element would be redundant, as we have seen in the literature that there are few expletive examples appearing with antiresultative, cancelling clauses following them.

The results may be illustrated in the following table:

Table 4.5 Frequency of the distribution of potentially contradictory and non-contradictory interpretations in the use of expletive negation with cancellation in Chinese

	Not contradictory	**Contradictory**
Question 1	11/27 (40.7%)	16/27 (59.2%)
Question 2	11/27 (40.7%)	16/27 (59.2%)
Totals	22/54 (40.7%)	32/54 (59.2%)

As seen in Table 4.5, exactly the same number of non-contradictory and contradictory responses were received for both questions, though the distribution was not such that each sentence was interpreted in the same way by each informant; there was a variable distribution of either response across both sentences. The results are curious, especially when compared with the results of the survey in (51), in which the same even distribution occurs for sentences 7 and 8 (42% in both cases, meaning that exactly the same number of expletive readings are given as canonical ones). For the sentences in (51'), the same number of contradictory responses is received for each sentence, meaning also that there is no difference of interpretation between the two sentences across the group, both sentences yielding 59.2% contradictory answers, and 40.7% non-contradictory. Opinions, then, are evenly divided.

The contradictory responses in the second survey again mean that the respondent has interpreted the negation as canonical, as the antiresultative clause implies the cancellation of the negative proximity (i.e. 'barely'); and the non-contradictory interpretation means that the respondent has read the negation as expletive (i.e. 'almost'). For some of the respondents, there was prevarication, and the responses that reflected the sentences as ungrammatical were treated as contradictory, and responses marked grammatical or acceptable were treated as not contradictory. One respondent, who marked Question 2 as contradictory, also stated that the ship both sank and turned a bend (meaning that the cancelling clause, for this respondent, did not contain the conversational inference that the boat was saved). One respondent found an equivalence of meaning in the use of the negative: 我觉得没有语病.在中文中,"几乎"加上"没"等否定词或者不加,意义相同 ('I believe there is no faulty wording. In Chinese *jīhū* with *méi* added becomes a negative

word, or if it's not added the meaning is the same'), indicating that the expletively negated proximative was treated in the same way as the non-negated proximative. Another respondent found that the meaning was the same as the alternation between the negated form and the non-negated form was found in other adverbs:

没有自相矛盾,"几乎没"在意义上与"几乎"相似,这种用法和"好容易"与"好不容易"一样 ('There is no self-contradiction. *Jīhū méi* with this meaning is written identically to *jīhū*, this type of usage is the same as with *hǎo róngyì* and *hǎo bu róngyì*'). (*Hǎo róngyì* literally means 'easily', but is given a dictionary translation of 'with great difficulty' which can be reinforced with the negative *bù* to produce the same meaning of difficulty). The respondent was thus well aware of the function of the negative *méi* with *jīhū*, and did not find Question 1 contradictory. However, the same respondent considered Question 2 contradictory, for the reason that the aspect marker, *le*, had been inserted between the verb and its complement, suggesting a completed action, and thus made the following comment in his response: 自相矛盾,"翻了底"中的"了"表示动作的完成,与后面的意思矛盾 ('self-contradictory, *fān le dǐ* with *le* in the middle turns it into a completed action, therefore the last part of the sentence is contradictory'). This may explain some of the reasons for canonical interpretations of Question 8 in the former survey (51); however, it cannot have been the only reason as there were equally as many contradictory answers for Question 2 in the second survey.

There were many similar attempts by the respondents to explain their understanding of the two sentences, and it was clear that they had understood the objectives of the task, and were commenting on the facility with which the negative and the positive proximative could both be used to express the same meaning. However, the tendency was for contradictory interpretations, thus, those with the meaning of 'barely V-ed', and therefore read as canonical negation. The hypothesis that the expletive negation may be found less frequently with a cancelling antiresultative clause is thus demonstrated by the second study – the tendency for canonical interpretations bears this out. If this is the case, then the argument for an entailment reading of expletive negation becomes less obvious – the presence of adversative, antiresultative clauses is not so frequently accompanied by expletive readings of the negation since, if it were, it would mean that the inferences of negation conveyed in the adversative conjunct would be redundant alongside the asserted expletive negation. Cancelling adversative clauses are thus less likely to be found with expletive negation, and the respondents would therefore opt for an alternative interpretation; this may be one of the reasons why the survey demonstrated a tendency for the respondents to select the alternative canonical reading of the negation.

4.8.2.2 *Reversion in aspectual decomposition*

On a final, more speculative note, the problem of expletive negation takes on a different dimension when the difficulty of interpreting examples in which the complement of the proximative refers to a punctual event (such as an Achievement, e.g. as in Figure 4.2) is under consideration. The discussion under (30) in 4.2.4 points to a paradoxical situation where the reporting of *almost P* must imply a minimal state of *P*, since if it were not for the knowledge of a minimal state of *P* occurring, one would not be able to utter *almost P-ed* with any certainty. The preconditions for establishing a prediction are never determinable, but in the Introduction it was stated that the aspectual definition of a proximative described a temporal phase located closely to the boundary of an event referred to in the main verb. If the presence of a boundary (in the aspectual definition) becomes a necessary feature of the definition of proximatives, then often in the case of temporarily punctual events it may be a matter of interpretation whether the boundary is an initial one or a terminal one, as in:

(52) a. Chris almost collapsed
b. There's almost a pound of parsnips here.

In (52a), a punctual event, one would well hypothesise an initial boundary of an event to be the one approximated to, while in (52b), where the proximative is complemented by a reference of quantity, it must be the terminal boundary of such a measure, as absolute measures of quantity are being referred to. In both cases, the boundary is a goal to which the involved participants are oriented.

However, if it is accepted that the act of almost-collapsing, as in (52a), entails some minimal sign of collapse to have been in evidence for the utterance to have been produced, the initial boundary shifts to become a source, not a goal, within the composition of the event. In the case of collapsing, then, *Chris almost collapsed* can quite acceptably mean 'Chris barely collapsed' if the minimal state of collapse was what provoked the utterance in the first place. This cannot be claimed for (52b), as the pound of parsnips will not be a pound until it is precisely a pound. For (52a), then, the slightest act of incompletion of an event can be alternatively perceived on one account as part of the event, while on another, the interpretation of the event is only viewed in its totality, and anything short of a completed event is not the event at all. *P* may therefore be alternatively viewed as either true or untrue, when only a partial representation of it was performed. For some speakers, *almost P* may then be viewed as *almost not P*, depending on how it is perceived (or desired) by the speaker, but only in the former account, when the commencement of the event constitutes a valid instance of the event itself, is it possible to suggest that *almost P* on one account is the same as *almost not P* on another. If the state of approximation is mid-way between the start and the termination of a brief, punc-

tual event, it becomes even more difficult to determine whether the state of mid-collapse was an instance of *almost P* or *almost not P*. The choice of the positive or negative then depends very much on the intended goals of the action at the time.

The interpretation of negatives with *almost* also depends significantly on where the scope of the negative is ranged: leftward over *almost*, or right-extending over the predicate. In the former case, the meaning produced is equivalent to 'barely' as the initial boundary of *collapse* in (52a) has been crossed by the minimal evidence of collapsing, for instance, if Chris has staggered slightly and regained his balance very quickly afterwards. If the negative is interpreted as extending over the predicate, it suggests that Chris came close to not collapsing, in which case he collapsed completely, but only with great effort. However, only in the first instance can there be a flip-flop between *almost* and *barely*: you cannot barely collapse unless some state of collapse has just been minimally attained, and for instantaneous events, this minimal attainment can be seen as proximative to the whole event. This is why it is odd, as noted in fn. 27, to use canonical negation with such malefactive examples: *Chris barely collapsed* would only be uttered if there had been a decided objective for him to have collapsed (did we want him to collapse?). The direction of the proximative is therefore dependent to some extent on the sentiments of the interpreter.

Thus, the possibility of positive proximative expressions swinging to negative ones might be only a factor of the way in which the perfective events described in their predicates are viewed aspectually. In Langacker's (1987b: 72–3) account of summary scanning of punctual events, as discussed in 4.3, even a momentary action can be viewed as compositional, and in such cases, the approach point will be fused with the terminal boundary. If such a perspective is applied, then even the most instantaneous events can be construed as part-whole entities and not simply a moment in time. In such cases, the truth or the falsity of *P* is at issue; once partial quantification of *P* has been imposed by the use of a quantifier, *P* can no longer be perceived to be non-compositional (i.e. with the initial and terminal boundaries coalescing). Partial quantification forces the separation (coerces, if it be so) of a terminal boundary from an initial one, even in instantaneous events. The decomposition of the event in this way is due to the need to verify the truth of proximatives and to reconcile them with partial representations of the complements over which they have scope. This need is created by the motivation to establish an evidential basis for modal inferences (to be discussed further in the study in Chapter 5). Proximatives, as has been discussed earlier, impose modal quantification over the truth of their complements, and as such, constitute a subtype of a predictive device; i.e. one that expresses evidential prediction, in the same way as the lexical sources of *be going to* futures in English (another form which is quasi-aspectual, in that it is allative in meaning, and quasi-modal in its predictive inferences). The prediction of Chris collapsing, for example, in (52a) could not be

plausibly expressed if the speaker were observing him sitting peacefully reading the newspaper and smoking a pipe; there would be no clear evidence to suggest a state of proximity to the event of collapsing. The use of proximatives is thus dependent on factors of current evidence and partial representation of the situation they predict at the time of utterance. The type of reversion of the aspectual construal of a proximative with an Achievement verb predicate permits a hypothesised reinterpretation of Figure 4.2, as Figure 4.5 below.

In such a reinterpretation, it is seen that the interpretation of *almost P* as *almost not P* depends very much on the construal of the punctual event, whether it is seen as sequentially scanned or not, and whether the truth of the event lies in its completion or in a sufficient valid instance of its occurrence. It is also important to determine what constitutes a valid instance of the occurrence of the event – this is almost entirely dependent on the speaker's ability to project the outcome from the evidence.

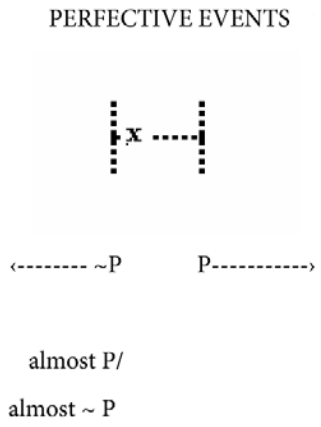

Figure 4.5

Such construals of the aspectual composition of proximatives may meet with a certain amount of antagonism if not accurately understood. The description offered, though, enables a clearer perception of the way in which the meaning may flip-flop from positive goal polarisation to negative goal polarisation, and the links with speaker expectations and desires, as illustrated for Chinese. In the study of proximative aspect, it can be seen that aspect may not only contribute to the creation of modal inferences, but may also serve to decompose the very nature of the traditional lexical-aspectual classes such as those introduced by Vendler (1967), suggesting that the descriptions may be illusory when the classes coincide with aspectual quantifiers and modifiers such as proximatives. The quantificational func-

tion of *almost* juxtaposed alongside such categories reduces them to an atomic level of description at which we are forced to hold to question the essential differences between continuous and non-continuous action, or culminating and non-culminating; they are less than clear-cut when viewed from another perspective. The importance of such distinctions may lie principally in the influence that they have on other elements in the grammar, and other co-occurring constituents, as seen in the next chapter.

4.9 Summary

The present chapter uses the basic evidence from aspectual co-occurrence conditions to underline the case for an implicature explanation for the counterfactual modal meanings associated with proximative aspectual markers, both in English and Chinese, as illustrated in the results of spontaneous surveys of the distributional effects of the forms selected. A number of other factors reinforced the evidence:

(i) the presence of adversative or contrastive clauses is still as a function of cancellation of the conversational implicatures, and can be outlined in Horn (1984; 1989[2001]) in the properties of R-based and Q-based implicata, i.e. those pertaining to scalar models of Quantity. The implicatures associated with *almost* and other proximatives are therefore hypothesised to be basically R-based, as maintained in sections 4.2.3 and thus expressive of the prediction of their complements, but varying in the precedence of R-based or Q-based implicata according to the aspectual environment in which they are used, R-based implicatures of the realisation of their complements being associated principally with present time reference and unbounded predicates, with Q-based implicatures being associated with past time reference and bounded, perfective predicates. The argument that adversative clause conjuncts are linked to rhetorical functions and are thus outside the content of the proposition expressed in a proximative cannot be sustained in the light of evidence from crosslinguistic sources that such clauses constitute a particular functional type which is grammatically categorised as the antiresultative (Malchukov 2004).

(ii) The first study revealed that the interpretation of proximatives in English with accompanying potentially cancelling elements did not produce contradictory responses from all native speaker informants for all environments, and that there was variation shown according to the aspectual features of the environment: bounded entities and events were more readily marked as contradictory with cancelling elements than unbounded states and imperfective situations. The same survey has been tested on 26 native speakers of Mandarin Chinese and similar variable results have been derived.

(iii) The evidence from the Chinese data in the present study also indicates that there is prevarication over the interpretation of expletive negation in proximatives, and that exactly the same number of respondents opts for such an interpretation as those who do not. Thus, in the environment of adversative or contrastive conjuncts, the use of expletive negation may be only a possibility, not obligatory.

(iv) It is clear that there is variation in the interpretation of proximative sentences as contradictory with a cancelling clause, and such interpretations vary in accordance with the aspectual environment of the predicate over which the proximative has scope. The tendencies vary slightly between English and Chinese speakers; most differences may be associated with the varying aspectual systems of the two languages.

(v) If the use of expletive negation is taken as evidence of an entailment analysis for proximatives, it is not consistent with the data in 4.8 in which speakers of a language which uses it still show variability in their distribution of contradictory interpretations to proximatives with cancelling elements in the context. The presence of an adversative antiresultative clause accompanied by a negated proximative is more likely to produce a canonical reading of the proximity, suggesting that the clause functions to cancel an implicature of negation rather than simply to provide additional information (which it would if the negated proximative were treated as expletive)

Given the hypothesis presented in the present study, and the analysis of proximatives as candidates for Horn-scales, also noted by Atlas (2005), there is adequate justification, since they share this analysis with modal elements (see Ziegeler 2000a, 2001), to describe proximatives as quasi-modal in nature, or at least residing on the aspect-modality interface. The aspectual nature of the proximative has been referred to in past literature (e.g. Heine 1994b; Kuteva 1998; 2001), and the function has been found to overlap with verbs expressing modal functions in other languages. In their aspectual nature, they refer to observations of supervaluative quasi-events, such quasi-events are in effect, only predictions, which is why they may also be analysed in modal terms. The understanding of proximatives in this way enables a clearer interpretation of their pragmatic function as well.

CHAPTER 5

Aspectual collocations and nascent modality*

The previous study on the proximative in English provided an initial perspective on the role of aspect in the generation of counterfactual modal inferences, suggesting that the context of varying aspectual conditions affects the factual/counterfactual polarity of a proposition; this has been more explicitly rendered as a link between perfectivity and factivity/counterfactivity, and imperfectivity and non-factivity. The Counterfactual Implicature Principle (CFI) in Chapter 4 (first discussed in Ziegeler 2000c) underlined the equivalences between maximal information content of a predicate and the likelihood of countervailing inferences being derived when the predicate is modalised. In such cases, maximal information content could be enhanced, for example, by bounded aspectual categories, creating the conceptual distinctions required for the anti-predictive statements produced in counterfactual situations. This example of aspectual proximity to a conceptually-distinct entity is only one means of generating modal inferences in on-line utterance-processing. The aspect-modality interface under discussion in the present chapter of this book, however, is more general and multi-dimensional than what can be described within the context of counterfactuality and hypothetical modality alone. It is explored in the present chapter from a historical perspective, in which the pragmatic inferences associated most frequently with grammatical imperfectivity in the form of generic statements in English are seen to give rise to the very origins of an emerging modal verb form.

In most past studies using the context of historical pragmatics, the study of modality has been influenced by the tendency to adhere to a generally accepted hypothesis originating in classical grammaticalisation research of Traugott (1989), Bybee and Pagliuca (1987), Bybee, Pagliuca and Perkins (1994), and Traugott and Dasher (2002) which states, broadly, that epistemic modality follows deontic modality in changes relating to the conventionalisation of conversational implicatures and the development of invited inferences. However, such studies do not analyse in any depth the means by which deontic modal inferences arose out of a particular set of lexical source verbs in the first place. Other valuable contributions have been

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made by Goossens (1999), for example, in which meaning shifts in modal verbs are seen to arise out of situations in which metonymic reinterpretation is possible. In all such studies it is the unidirectionality hypothesis of grammaticalisation changes which is upheld as the mainstay for the consistency of the evidence from modal verbs. Some attempts have been made to question this line of argument, for example, the earlier work of Warner (1993) which shows the co-existence of deontic and epistemic meanings at an early stage of history, and there are also questions raised by Traugott (1989: 36, f.n.) regarding the appearance of epistemic modality prior to deontic modality for modals of permission such as *may* and *can*. But whatever such attempts can produce in terms of carefully-selected historical evidence is overshadowed by the fact that they do not account satisfactorily for the semantic developments of the modals, nor do they illustrate the statistical proportions of one function relative to another at any given diachronic stage of development. In the present chapter, the evidence from grammaticalising semi-modals may be used to provide better insights into the early stages of the grammaticalisation of modality in general, as such forms are not as advanced as their full modal counterparts, and have emerged with modal functions only relatively recently; as a result, they are to be considered a more transparent source of data. In this way, the natural progression from less to more abstract modal meanings (described by Plank (1984) as a 'paradigm case' of grammaticalisation) may be held accountable in the case of two examples, *be able to* and *be supposed to*.

The advantages of selecting semi-modals as objects of investigation are quite obvious: as they are more recent developments in the modal paradigm, they emerge in functions in which the existing full modal forms cannot be considered, e.g. as non-finite substitutes for full modals (see Facchinetti 2000). Their relatively recent appearance by comparison to the full modal forms also permits more accurate data to be compiled, as the sources and texts in which they can be studied are more numerous and reliable. Thus, with even a small sample of data, it is possible to trace the development of such forms and determine whether the grammaticalisation paths followed by their historical modal antecedents may be recapitulated in the periphrastic renewal functions that such forms often serve in contemporary texts. The present study will therefore consider the following questions: (i) are the traditional pathways of the grammaticalisation of modals reflected in the semantic development of certain semi-modal renewal forms? (ii) how does the aspectual nature of the complement verb affect the development of the modality in the matrix verb? (iii) at what particular point in its development can a (pre-) modal form be claimed to have acquired modal uses?

The investigation of question (ii) has been introduced as a result of observations obtained from a previous study (Ziegeler 2001), in which the earliest appearances of the three selected modal forms serving the function of past ability or

possibility were noted as most frequently associated with functions of expressing generic situations. In particular, the development of later functions of hypotheticality (in the case of *could*), actuality (for *be able to*), and counterfactuality (for *had the ability to*) were found to be always associated with a shift in the aspectual reading of the complement verb from generic to event-specific or episodic meanings. The question now arises whether the early environments referring to generic meanings are to be considered a type of epistemic modality, or whether they are, in fact, a pre-modal stage of development; hence, question (iii) above. Thus, the earlier data will be compared to some recent examples of the developing semi-modal *be supposed to*, in order to find similar patterns of semantic change taking place over a shorter time period. In Section 5.1, the definitions of deontic and epistemic modality and the grammatical aspectual categories of imperfective and perfective in English will be briefly defined in accordance with approaches in earlier chapters. In Section 5.2, the possibilities of a counter-directional pathway of development for *be supposed to* will be summarised; in Section 5.3, the notion of evidential categories in English will be discussed in relation to modal verbs; Section 5.4 will present some examples of data from the Helsinki Corpus and from other Modern and Early Modern English sources found in the *OED online*. In Section 5.5 will be discussed an alternative hypothesis, explaining why, for *be supposed to* at least, it has been said that there is a counter-directional path of development from epistemic to deontic modality. It will be seen that the apparent early appearance of epistemic meanings in some semi-modals may be explained by a more accurate assessment of the stage of the modality onset itself and a clearer definition of the general ontology of deontic, root, or agent-oriented modality. The hypothesis will be framed against evidence from the development of *be able to* and other modal verbs in their early stages.

5.1 Modality and aspect

5.1.1 Epistemic versus non-epistemic modals

In Chapter 4 was discussed the application of scalar implicatures to the interpretation of proximative aspect, so that the proximative expression was considered an informationally weaker counterpart of the proposition that it factually quantified. It was established that, like modalised expressions, the proximative could modify the factuality of the complement over which it had scope. Reference to Quantity scales to describe modality (see Horn 1984; Traugott 1989; Ziegeler 2000a) has not been without problems, as pointed out by Verstraete (2005a), who finds difficulty applying them to forms of deontic modality, since deontic modality carries lexical

presuppositions which conflict with the implicatures created by ranking two deontic modal meanings in scalar hierarchy with one another. In all the literature on modality, especially that of English modality, some of the principle problems that have arisen have always related to the lexical meanings associated with a particular group of modal auxiliary verbs. Thus, even as scalar items, non-epistemic (deontic) modals cannot be compared with the traditional binary categories of epistemic modals: possibility and necessity, which can be ranged on Quantity scales. It should be emphasised, though, that the meaning differences between obligation, permission, ability and volition associated with the non-epistemic class of modal verbs in English are not important to the functions they serve in modifying the factuality of a proposition. Such meanings happen to be found in factually modifying elements because they all can pre-empt the realisation of their complements; in actual fact, any stative matrix verb could serve the same function (for example, *think* in *I think the sun's coming out*). This is the reason that there is such a wide range of lexical meanings found associated with modal and semi-modal verbs; the meanings of factual modification are merely inferential by-products of their use in combination with a non-stative complement.

Why such verbs have always presented problems to research in the field of modality remains a constant mystery: the verbs have been classified and re-classified using terms which (as well as deontic and epistemic, dynamic), referred only to characterising modalities such as ability and volition (Palmer 1986), or 'root'/epistemic used by Coates (1995), avoiding the need to distinguish between deontic and dynamic, and subjective modality (first mentioned by Lyons (1977). The latter term is discussed by Nuyts (2000a and 2001) as a necessary division in root modality determining whether the modality originates in the subject or is imposed by an external force. Palmer's (1990) use of the term 'subjective' applied to both deontic and epistemic modality, depending on whether it referred to the involvement of the speaker in effecting a future event (deontic), or the subjective act of the speaker expressing an assessment of the truth of the modalised proposition (epistemic); i.e. subjectivity is always related to speaker-involvement. One could then consider all modality subjective, but the limitations of using such terms include situations in which the subject is under an external force (as for deontic modality) and cannot be involved in effecting the future act. Such cases have been described as 'wide-scope' deontic modality (Nordlinger and Traugott 1997), an intermediate category in which the deontic modal scope, which usually extends only over the subject (or no further than the verbal complex (Abraham (2002); Abraham and Leiss, (ms.)), may be extended to include the entire proposition, as for epistemic modality; for example:

(1) Clay pots... **must** have some protection from severe weather (Coates 1995: 56)

Wide-scope deontic modality can also be suggested in the case of Verstraete's (2001: 1508) problematic example:

(2) But to reach orbit an object **must** accelerate to a speed of about 17,500 miles per hour... and it **must** reach an altitude of more than 100 miles (160 kilometers) in order to be clear of the atmosphere. ⟨ICE-GB: W2B-035 #39:1⟩[1]

This example, taken from the *International Corpus of English (Great Britain)* is queried by Verstraete as although it carries deontic meanings, they are not assigned to the speaker, which would be necessary for the modal to be subjective. He goes on to note that the modality does not originate in any determined deontic source either. The category of wide-scope deontic modality referred to by Nordlinger and Traugott (1997) is defined in such examples in which deontic obligation is seen as reported rather than imposed by the speaker; i.e. the obligation is not subjective.

Narrog (2005: 176) finds that the term subjectivity (in its reference to the speaker's attitudes and opinions) is not useful in uniquely defining modality, as there are many grammatical categories and lexical expressions that convey subjectivity but are not necessarily modal. He provides examples in Japanese and English to substantiate his claims that the expression of subjectivity makes no difference to the factuality of the expression, for example (2005: 185):

(3) You're telling me you don't love me anymore

an example taken from Wright (1995: 157), which is held by Wright as expressing the speaker's epistemic attitude to the utterance at a particular moment in context, is a factual expression, regardless of its subjective modification by the speaker (see also Chapter 2.3). The distinctions drawn by Narrog (2005) do not demonstrate that there is a necessary correlation between modality and subjectivity.

However, Palmer's definitions appear to be more restrictive. Dynamic modal auxiliaries such as *can* and *will*, associated with the ability and volition of the subject, were suggested as not conveying subjectivity and therefore not true qualifying candidates for modal verbs at all (Palmer 1990: 7). This is shown in examples such as the following, in which the modal *can* merely reports on the abilities of the subject:

(4) And they **can** detect poisoned bait a yard off. I believe some of them **can** read.

http://www.lrb.co.uk/v27/n06/wils07_.html (www.google.co.uk)

The only reason for defining *can* used in such senses as a modal, is based, according to Palmer, on formal grounds. Li (2003) even goes so far as to describe such forms

1. The coding used by the International Corpus of English for this particular example (W2B–035) indicates that the example comes from the genre category of non-academic writing (non-technical).

as 'factual' modality, on the basis of their reference to abilities and characteristics that have general actuality, whether or not they describe specific events. However, the meanings of ability and volition are only one function of such modals; in other ways they are polysemous; for example, *can* in (4) can refer to permission or possibility. Verstraete (2001: 1525) notes the ability of such modals to be subject to tense distinctions, and in their dynamic function, they reflect actual differences of time reference (e.g. *some of them could read,* referring to a past ability, rather than a future possibility). The importance of the functions which are basic to their meaning and which distinguish them from other modals is at the essence of the hypotheses relating to the present and next chapters, as will be seen later: they demonstrate a generic, characterising aspectual function which is part aspect, part modal. It is this function which may be seen to contribute to the incipient stages of modality in many cases.

Bybee (1985) introduced the term agent-oriented modality which covers all the distinctions of root, deontic, and dynamic modality described by Coates (1995) and Palmer (1986 and 1990). Agent-oriented modality refers notionally to the role of an agent in the performance of the modalised event, and is described by Bybee, Pagliuca and Perkins (1994: 177) as reporting "the existence of internal and external conditions on an agent with respect to the completion of the action expressed in the main predicate." Coates' root modalities of permission, obligation, necessity and possibility can be included, therefore, in Bybee et al's categorisation of agent-oriented modality, which also covers meanings such as obligation, necessity, ability, desire, and root possibility. According to Bybee et al (1994: 178), what Palmer describes as dynamic modals are listed under agent-oriented modalities as ability and desire respectively, the category also including deontic modals used in directives, such as *must* and *can* (with a permission sense).

Interestingly, the concept of an agent involved in a modalised expression is also adopted independently by Verstraete (2005a) who refers to a 'modal agent' being present in deontic and dynamic modality, but not epistemic (a similar position taken by Abraham (2002), Abraham and Leiss (ms.)), who discuss modality with reference to theta-roles). If there is an agent, it could only be possible if the infinitive has a part to play in selecting a semantic role and not just the modal auxiliary. However, the expression of non-epistemic modality refers to no committed, agentive act, only one that is predicted to occur, and a stricter definition of agent should refer to an entire causal chain, not just the volitional initiation of one (see Schlesinger (1995) for empirical studies relating to the definition of agents). In fact, Diewald (2001) suggests that the subjects of (deontic) modal verbs are thematically experiencer roles, bearing both goal and source features: the goal is the subject as recipient of the modal directive, and the source is the subject as intended actor (2001: 32). For this reason, terms such as 'agent-oriented' might

not accurately refer to situations which are, rather, 'potentially-agent-oriented', or as Goossens (1987: 28) suggests, describe 'potency', since the future agentive act is only implied in the modality.

The problem of describing non-epistemic modality will be re-introduced later in the context of Chapter 6; for the meantime, other accounts suggest that non-epistemic modality is 'goal-centred' (Frawley 1992: 425), and involves the commitment of participants other than the speaker, or that it is future-projecting (Bybee, Pagliuca and Perkins 1994: 184), in that the participant is projected to be involved in an activity at some time in the future (this is used by Bybee et al (1994) as a general description rather than a classificatory term). As explained in further detail in Chapter 6, 'future-projecting' is probably the most succinct means of distinguishing deontic or root modality from epistemic modality; this is also indicated by Abraham (2002) who emphasises the fact that epistemic meanings can never refer to the future, and that future reference is defining of the root modals, at least for German. Such terms are useful as they allow for an objective, temporal definition on the distinctions between epistemic and non-epistemic modalities, and any non-epistemic modality can be defined without the need for sorting out whether the modal verb is subjective or not, or whether there is agentivity involved in a modal expression. Bybee et al exclude the modalities of ability from the category of future-projecting modality, in that they refer only to present, on-going states, or a state which has been completed at some time. James (1986: 51), however, refers to ability and obligation as precursors or antecedents of action; it might be argued that all non-epistemic modalities can be viewed as precursors to potential action, or to the realisation of their complements, as noted above. In one way, then, such modalities have in common the fact that they all imply the possibility of future action, and for this reason they can be lumped together under one semantic umbrella.[2] For the purposes of the present study, then, the term 'future-projecting' best serves the descriptive definitions sought for the early stages of development prior to epistemic stages. According to Palmer (1990: 47), however, with deontic modality the proposition must always refer to the future, though with epistemic modality the proposition can refer to either the present or the future, e.g. *he may arrive tomorrow*. It could be argued though, that in the case of epistemic future reference, it is the speaker's assessment of the situation which is still deictically located in the present, regardless of the time of the referring event. The distinction of

2. Perhaps the only difference is that for ability types the modality is only a necessary condition for the subject to attain a future action. Permission modals involve an additional qualification – the removal of any social barriers to action (see Talmy 1985b; Sweetser 1990). Thus, there is an implicature in granting permission (e.g. in *John may go*) that the subject's power alone is insufficient for the attainment of the action, and that the power of others, understood as a social dimension, is required as well.

prospective action remains one which is exclusively associated with non-epistemic modal meanings.

5.1.2 Verbal aspect and modality

The restriction of epistemic modality to present time reference implicates that it may also only co-occur with stative or imperfective predicates, since in English, perfective predicates can never be concomitant with present time or the time of utterance (Abraham 2002 also discusses this aspectual constraint). The linguistic difficulties of distinguishing non-epistemic from epistemic modality have therefore sometimes been resolved by the suggestion that epistemics always combine with stative complements (e.g. Goossens 1987; McDowell 1991). McDowell (1991: 314–5) attributes this rule to Steedman (1977), as does Goossens (1987), who distinguishes the complement types as situations (states) and events (non-states), the diachronic progression from deontic to epistemic being linked to the shift in the combining predicate from event to situation. Abraham and Leiss (ms.) (and Abraham (2003) cited therein) also point to the aspectual distinction between epistemic and deontic modality in German and English, in which punctual aspect can only occur with deontic modals. McDowell goes on to suggest, though, that stative complements include those complements that may be described as "stative in interpretation" (1991: 315), i.e. referring to an interval of time that includes the moment of speaking. This categorisation includes modal progressive forms such as:

(5) they **must** be acting to the disadvantage of minority ethnic communities.

(*The Guardian* February 25, 1999)

and modal perfects, e.g.

(6) Police said that militants **may** have planned to bomb the embassy at the same time as the attacks in the US. (*The Guardian* September 14, 2001)

In McDowell's terms, modal habituals may also represent states that include the moment of speaking, or span current events in the discourse, e.g.

(7) But while Montella **must** often sit on the bench in Rome while the fading Gabriel Batistuta takes his place, it must be even more frustrating to be kicking his heels while Inzaghi is on the pitch. (*The Guardian* June 13, 2002)

There are, of course, problems and exceptions to the generalisation that modal habituals are 'stative': they are ambiguous out of context between habitual and deontic readings. Furthermore, not only habituals, but other stative environments may

produce ambiguities. Examples which contain a stative-like complement, and are certainly not epistemic, include the following:

(8) Applicants **must** have been awarded, or be an advanced candidate for, a doctoral degree at any university. Applicants **must** be expecting to have completed the requirements for their doctoral degree by 1st October 2003.

(http://jobs.ac.uk/jobfiles/NC896.html 22 May 2002)

In (8), cited from an internet employment web-site, the modal verb *must* combines in both cases with a stative verb, as it does with deontic passives, e.g.

(9) The pollen **may** be taken from the stamens of one rose and transferred to the stigma of another

cited from Coates (1995: 62) by Nordlinger and Traugott (1997: 303), as another example of the 'wide-scope' deontic modality discussed above (5.1.1). These examples illustrate the difficulty in generalising that all stative and stative-interpretation environments may be classed as epistemic, and provide clues as to the possible intermediate contexts in which grammaticalisation may occur (i.e. those in which both epistemic and deontic interpretations are possible).

However, it seems more likely the case that such instances simply represent an area of ambiguity which must always rely on contextual clues for its resolution. Goossens (1987) finds that modal habitual uses such as (7) seem to be classifiable as either deontic or epistemic. In the case of modal habituals (as with progressives to some extent), the facility to produce either a deontic or an epistemic reading might be related to the degree of aspectual focus at the time: if it is on the lexical aspect of the main verb, which is perfective, the reading is deontic; if it shades to the grammatical aspect of the entire sentence, which is imperfective, the reading is epistemic. Habituals and generics possess the capacity to reflect both facets of their aspectual composition in that they contain lexically-perfective verb types (Aktionsart) but are imperfective in grammatical aspect; i.e. they are aspectual hybrids. Similar descriptions may be applied to the progressive aspect in English.

The terms 'perfective' and 'imperfective' will be used in the present study in much the same way as in the previous chapter and as noted in Chapter 1, i.e. according to Langacker (2002: 86–7) where they refer mainly to the boundedness of the inherent lexical aspect of stative or non-stative verbs. An imperfective process, according to such definitions, refers to Vendler's (1967) States, or to verbs which do not occur in the progressive; they are processes which are inherently time-stable and unbounded across time. A perfective process refers to Vendler's (1967) Activities, Accomplishments, and Achievements, dynamic processes which are bounded or may change through time. Typical imperfectives include *resemble*,

know, and *want*, and typical perfectives are *jump*, *learn*, and *arrive*. Both categories can occur with imperfective grammatical aspect, such as habitual aspect for perfective verbs (*I arrive at 9 am each day*), or progressive aspect for imperfective verbs (*The cat is wanting to go out again*), but when they do, the boundedness of the entire situation takes precedence over that of the verb meaning in isolation. It is important for the present study to investigate further the interaction of habitual aspect and modality, and the contribution played by grammatical aspect in the development of modal meanings in English; for this reason, the semi-modal form *be supposed to* will be used as a case study in this chapter.

5.2 An epistemic-deontic pathway for *be supposed to*

As far as the present study is concerned, a number of accounts have mentioned that epistemic uses appear to have occurred in the case of *be supposed to* prior to deontic meanings of obligation, e.g. Visconti (2004) and Westney (1995: 176) who bases his conclusions on *OED* entries. The reasons for proposing this are linked to the fact that *be supposed to*, in expressing the beliefs of others, might be also considered to express the epistemic judgements of the speaker. The case is a curious one: van der Auwera and Plungian (1998: 96) deny that the earlier uses were epistemic, as they make no obligatory reference to the judgement of the speaker, as in:

(10) John **is supposed to** be in Calcutta.

However, they offer no further explanation, apart from suggesting that such uses exemplify participant-external modality (circumstances external to the subject allowing for the possibility or necessity of a situation). One reason, though, that *be supposed to* cannot be an epistemic modal in such uses is because epistemic modals cannot be converted into questions without a change of meaning (Coates 1983: 244, Nuyts 2000a: 121) as this would mean the speaker was questioning her own judgement; in, for example: *Is John supposed to be in Calcutta?* there is no change in the meaning of the modal. Traugott (1989: 45–46 f.n.) also discusses the possibility of epistemic origins in *be supposed to*, and refers to two separate pathways of development, borrowed from the French source, *supposer*. One path had the meaning 'hypothesise', the other 'expect'. The former meaning, which Traugott classifies as epistemic, is still found today, though the latter meaning appears to have been a later use, albeit attested in its active form as early as 1474 according to Traugott (1989: 46, f.n.) with a meaning of 'intend': *whan he sawe Alixandre he supposid to have axid his requeste* 'when he saw Alexander he intended to make his request' (Caxton, *The Game and the Play of the Chesse 2nd ed, i.22*). Although

applying to the active form of the verb, such observations are held by Traugott to involve the passive form as well.

Bybee (1985: 94) regards the passive form as a newer use with obligation senses arising when the predicate refers to the future, e.g. *He is supposed to come*. Visconti (2004) also discusses the influence of future time reference in the predicate. Her study includes reference to both active and passive forms of the *suppose* paradigm, and she has proposed a possible pathway which links the two stages of development from meanings of 'belief' or 'hypothesis' to those of 'expectation', providing abundant examples. Although the present study will not be examining the non-passive forms of the verb *suppose*, Visconti does demonstrate a tendency for a rise at later stages of development of more subjective (non-passive) functions such as interrogatives and imperatives relative to earlier declarative main verb functions with meanings of 'believe'. Her analysis suggests not a separate, co-existent path of development for the two meanings, but a change from 'believe' meanings to one of 'expect' in the passive form under investigation, and associated with the rise of obligation uses. She discusses the change to obligation senses as developing through the combination of passive with meanings of 'expect' and resulting from an invited inference. In this way, the participant-external modal meanings (cf. van der Auwera and Plungian 1998), referring simply to the circumstances external to the subject allowing the possibility for some state of affairs, give rise to deontic meanings, which refer to the social source of the circumstances. However, the particular aspectual conditions under which the invited inferences may arise are not discussed in any of the previous studies, nor are the semantic differences surrounding the use of *be supposed to*. The environmental conditions which affect semantic changes in the predicate will be investigated in the data below (5.4).

5.3 Epistemic modality and evidentiality

Many earlier studies of epistemic modality discuss an additional, perhaps peripheral category of grammatical marking across many languages, described as evidentiality. Abraham and Leiss (ms.) regard evidentiality as a redundant category as long as epistemic modality exists. Evidentiality has been variously described as: "any linguistic expression of attitudes towards knowledge" (Chafe 1986: 271); as a middle-range category of epistemic certainty in which non-presupposed complements appear (Givón 1982b: 31); and as "the kind of justification for a factual claim which is available to the person making that claim" (Anderson 1986: 274). None of the definitions refer to any particular grammaticalised category in English, though grammaticalised forms appear in other languages, such as those described by Fitneva (2001) for Tuyuca, which she describes as characterising the "...

nature, and limits of the knowledge expressed by the speaker" (2001: 402). In her study she makes a clear distinction between evidentiality as source of information and epistemicity as attitudes and judgements of the speaker on the information.

Epistemic modality in its classical descriptions has been associated with definitions such as the expression of the speaker's judgement on the truth of a proposition (Palmer 1990: 6), or the speaker's commitment to the utterance (Lyons 1977: 452, cited in Fitneva (2001)). Most former accounts agree that the category of evidentiality cuts across the domain of epistemic modality, e.g. in that evidentials may include markers of circumstantial evidence as well as hearsay, as Anderson (1986: 274) notes in the following contrast:

(11) a. John must have arrived
b. I hear Mary won the prize.

In (11a), circumstantial evidence is marked by the presence of epistemic *must*, and in (11b) hearsay is explicitly marked in the matrix clause, but Anderson includes parenthetical material to explicate the context of the utterance (e.g. in (11a): *because I see his coat on the chair*). It is doubtful, at that rate, whether circumstantial evidence is actually marked on the modal verb in such cases, or whether it has more to do with the accompanying parenthetical information provided in the context, since the modal construction does not of itself express such evidence. In fact, the implication that there is evidence can be cancelled without anomaly, e.g. *John must have arrived, though I have no evidence of his arrival yet.*

Abraham (2000) discusses the relationship across languages between evidentials and resultative perfects, something often related to the mirative category across languages. Mirativity, according to Delancey (2001: 370) is a category of linguistic marking which conveys to the speaker that the information presented is new or unexpected. Resultative perfects (e.g. *John has arrived!* without the modal verb as in (11a)) express evidentiality, according to Abraham, by the connection between an existing result and the inferential meanings of a completed past action derived from the evidence of a current state. However Delancey (2001) does not consider this as justification for mirativity and evidentiality to be treated as the same category. Palmer (1986: 66), on the other hand, does not distinguish evidentiality from epistemic modality, as he claims that there are a number of languages in which evidentials and judgements can be regarded as subsets of an epistemic system. English, he believes, has predominantly judgements – i.e. inferences deduced from available evidence, as in the use of epistemic *must*. However, as we saw above, the use of the modal *must* does not contain any evidential information, and it is more likely that the evidence is only an implicature of the epistemic meaning. Other categories, most often associated with evidential rather than judgement modality, include quotatives, and sensation evidentiality. German (and some other

Germanic languages) use an epistemic modal verb to express quotative evidentiality, which is given as strong support for the argument that epistemic modals and evidentiality markers be subsumed under the one system (e.g. Palmer 1986: 72):

(12) Er soll steinreich sein
He SOLLEN + 3SG + PRES + INDIC + very rich be
'he is said to be very rich'

Similar uses are found for the epistemic use of the modal *wollen* 'will' which indicates that the hearsay evidence is provided by the subject, not an un-named agent. In general, however, most quotatives report on what is claimed by people in general, with no reference to the source of the evidence. The use of such forms to express evidentiality could perhaps be seen as a type of metonymical shift in which the speaker's endorsement of the proposition stands for the speaker's reporting of it. It is questionable whether the inferences of hearsay are not simply conversational implicatures in such examples.

Aijmer (1996: 396) describes epistemic *must* as an "undercover evidential" when it has inferential meaning, and follows Palmer (1986) in her ascription to the epistemic system which distinguishes evidentials as a subset alongside judgements across languages. Her opinions are most likely also influenced by the fact that modal verbs in Swedish are used for evidential purposes. However, arguments against evidentiality and epistemic modality being subsumed within the one system are also found: Salkie (1996: 385) endorses Dendale's (1994) distinctions on the basis of the fact that one category shows the way in which the information was derived (as in (13b)), and the other shows the speaker's judgement on the reliability of the information (as in (13a)). Nuyts (2001) also discusses the distinctions, suggesting that subjectivity as an evidential qualification is not necessarily an epistemic one, e.g. (2001: 384–5):

(13) a. John probably made it to the bakery
b. Mary considers it probable that John made it to the bakery

Nuyts (2000b: 27) proposes the argument for distinguishing the two categories of epistemic modality and evidentiality by suggesting that the speaker's reference to the nature and type of evidence justifying an utterance does not have to concern the speaker's assessment of the truth of the utterance. The reason that (13a) is epistemic is because it reports on the speaker's commitment to the utterance; (13b) only reports on someone else's epistemic commitment but says nothing about whether the speaker ascribes to it or not; in fact, an evidential such as (13b) can be used to imply the speaker's *non-commitment* to the truth of the complement proposition, i.e. by attributing the commitment to another participant and thus conversationally implicating her own detachment from the reported judgement.

The speaker may therefore be withdrawing any commitment to the truth of the proposition, but this is realised as a Quantity 1 implicature (Grice 1975), not a *necessary* part of the meaning of the utterance.

Other accounts such as Fitneva (2001) question the overlap between evidentiality and epistemic modality in many languages, since, in her account, there is no resort to the speaker's attitudes present in most evidential expressions. Evidential 'source of information' markers should be distinguished from those expressing speaker evaluations, and Fitneva demonstrates empirically that such functions can be separated in Bulgarian. Lazard (2001) also provides crosslinguistic justification for distinct evidential categories, suggesting that in neutral discourse most speakers embrace the truth of what they express as a result of linguistic principles of discourse; in evidential expressions, he maintains there is a detachment of the speaker from what the utterance expresses (as 13b suggests). Such detachment cannot be compatible with an account of evidentiality as an expression of the speaker's judgement or commitment to the truth of the proposition, as for epistemic modality, since in such cases, the speaker is making an attachment, not a detachment, to the truth of the utterance. In the study outlined in the present chapter, it will be seen that the category of evidentiality in English is distinct from that of epistemic modality.

Chafe categorises epistemic *must* as expressing induction and induction as one of a number of 'modes of knowing', ways in which knowledge is acquired (1986: 263), which also include belief, hearsay, and deduction. Belief is marked in Chafe's account by cognition matrix verbs, e.g. *I think*, *I guess*, induction by epistemic modals and epistemic adverbs e.g. *evidently*, and other main verbs such as *seem*; Chafe also includes sensory evidence expressed in forms such as *I hear*, and *I see* as another means of marking evidentiality in English. He observes that epistemic adverbs such as *generally* and *normally* frequently coincide with generic statements, which allow for an indefinite number of specific occurrences (1986: 265), and that the tendency to categorise reliability of knowledge appears to override strict adherence to any formal convention for marking evidentiality in English. One would believe, then, that given the absence of any clear-cut grammatical morphological marking for evidentiality in English, it may be a category of low functional priority, or otherwise regarded by speakers as redundant for grammaticalisation purposes.

However, Chafe includes the developing semi-modal *be supposed to* under the sub-category of hearsay evidence, as does Nöel (2001), who classifies it as one of a collection of passive matrices which supply evidential meanings in English; e.g. (Chafe 1986: 268):

(14) I think it's **supposed to** be the most expensive place in Europe to live.

The possibility for *be supposed to* to be classed as an evidential raises problems for accounts which assume that *be supposed to* is a modal in every case, e.g. van der Auwera and Plungian (1998). However, there are functional differences between (14) and (10): (14) has a non-human subject with 'belief' meanings in the predicate, and (10) illustrates a human subject co-occurring with, quite possibly, obligation meanings in the predicate, which may have nothing to do with evidentiality at all. Thus, (10) could well represent a further grammaticalisation from the uses shown in (14). These two semantic functions of belief and obligation (also referred to in Visconti 2004) will be investigated in the survey below, in order to assess the possible conditions under which they may have developed.

5.4 Survey variables

The data illustrated in the following tables were obtained via two separate searches of the sample of quotations of *be supposed to* + V available from the 1989 version of the *OED Online*. The total number of examples surveyed was 1,372 ranging across the time period from 1400 to the present day, and the data were divided into three groups, 1400–1800, 1801–1900 and 1901 to 1989, as the changes which appeared to be taking place were clearly best exemplified within such time intervals. It must be remembered that the *OED* quotation selection does not constitute a representative corpus of appropriate styles and genres, and the sources for the quotations may rely on a single text rather more frequently than a representative corpus would be likely to; however, the sample quantity is sufficiently large to be able to justify discussing some clear tendencies in the development of *be supposed to* over a nearly 600-year period of time.

The categories shown in the tables are defined as follows: stative complements predicated by *be* or *have* (e.g. *It is supposed to be a kind of fish*), and including perfects (e.g. *It is supposed to have rained*), are separated in Table 1 from other stative verbs, as they clearly predominate throughout, and would bias the results if treated together with the remainder of the sample. The category *(other) stative* includes all verbs of cognition, perception or stance, which are defined by the fact that they cannot be used with the progressive aspect in a neutral sense; e.g. **he is resembling his father* is not usually acceptable (though *he is resembling his father a lot these days*, in which the state is seen as temporary or contingent, may be (Comrie 1976: 36–7)). *Non-stative* includes all other verbs, and non-finite forms of *be supposed to* were also included (no examples of non-passive uses, e.g. *supposed that* were included). The data also distinguish human from non-human subjects (deities being classed as human and the human soul and human characteristics as non-human). The reason for using such distinctions as a variable is because clearly obligation

senses cannot arise without a human subject (in which the term 'subject' refers to the grammatical subject of the passivised form). Obligation senses are classified separately in the tables as a natural consequence arising from the combination of 'intention' or 'expectation' meanings with a human subject, the category 'obligation/expectation' combined with a human subject will therefore be hypothesised to refer by extension to deontic modal meanings. The rise of such meanings will be illustrated in the results, and will be exemplified thus in Section 5.5 along with the other categories.

5.4.1 Results

The results of the survey are illustrated in Tables 5.1–5.3b below.

Table 5.1 Relative proportion of stative to non-stative verb complements, showing increase in the use of non-stative complements with *be supposed to*, as exemplified in a sample of 1372 *OED* quotations spanning the period 1400 to 1989

	be/have	**%**	**other stative**	**%**	**non-stative**	**%**	**TOTALS**
1400–1800	240	72	23	6.9	70	21	**333**
1801–1989	592	57	100	9.6	347	33	**1039**

Table 5.2 Rise of non-stative complements of *be supposed to* relative to stative complements other than *be/have* for the periods 1400–1800, 1801–1900 and 1901 to 1989 (N = 540)

	stative	**%**	**non-stative**	**%**	**TOTALS**
1400–1800	23	24.7	70	75.2	93
1801–1900	74	30.5	168	69.4	242
1901–1989	26	12.6	179	87.3	205
TOTALS	123	22.7	417	77.2	540

Table 5.3a Summary of the major trends in the development of *be supposed to* in the OED quotation sample 1400–1989, with reference to semantic distinctions and subject category (non-human subjects). Percentages are out of the total non-human and human subjects (= 540)

Meaning	1400–1800	1801–1900	1901–1989
belief	63.4%	62.8%	35.1%
ambiguous	4.3%	5.7%	1.4%
obligation/expectation	4.3%	7%	24.3%

Table 5.3b Summary of the major trends in the development of *be supposed to* in the OED quotation sample 1400–1989, with reference to semantic distinctions and subject category (human subjects N = 155). Percentages are out of the total non-human and human subjects (= 540)

Meaning	1400–1800	1801–1900	1901–1989
belief	7.5%	4.1%	2.9%
ambiguous	8.6%	5.3%	7.3%
obligation/expectation	11.8%	14.8%	30.2%

5.5 Discussion

Although the data are not taken from a representative corpus of various genres, a number of trends seem to be emerging which indicate the path or direction of development of *be supposed to*. According to the data available, the figures in Table 5.1 demonstrate, above all, that complements predicated by *be* or *have* are most likely to be found co-occurring with the semi-modal form at any period of its history: in the time-span from 1400–1800, 72% of all examples co-occurred with such complements, and in the period 1801–1989, 57% were of that type. Apart from *be* and *have*, though, very few other stative verbs appeared in the complements: the figures rise only from 6.9% to 9.6% during the entire time span. By contrast, the figures for non-stative verbs appear to rise by a similar proportion to the drop in *be/have* complements, i.e. by 12% (21% to 33%), the accompanying drop for *be/have* being 15%. The data already indicate that there appears to be a gradual trend towards a greater number of non-stative complements as time progresses.

In Table 5.2, this trend is more clearly illustrated. The percentage of non-stative complements relative to 'other' stative complements rises from 75.2% in 1400–1800 to 87.3% in 1901–1989, while the number of stative complements drops from 24.7% to 12.6% in the later period. In the intermediate period from 1801–1900,

there is a nearly 6% drop in non-stative complements, which is only minimal. Table 5.3 introduces the semantic categories found to be associated with the developing form. It is clearly illustrated that, as Visconti (2004) also suggests, there is a chronological development from an agentless passive expressing the belief or hypothesis of an unidentified source to a construction which gradually increases its range of functions to report an agentless obligation or expectation imposed on the subject. However, also noticeable is the fact that the meanings of belief or hypothesis initially appear to correlate mainly with non-human subjects (63.4%), as compared to 'expectation' or 'obligation' meanings with human subjects, which amount to 11.8% for the same period (1400–1800), a difference of more than 50%. The first example listed of the 'belief' category with non-human subjects and non-stative complements is the following:[3]

(15) an herbe like fenel with a white flowre and short stalke, and **is supposed to** come of naughtye persely seede. It is also called bastarde persely. (1548 Elyot *Caucalis*)

The sense here is one of reporting a generally-known fact about the herb, and so is classified under the 'belief' readings. It should be noted also that the meaning of a generally-known fact is partly attributable to the nature of the subject, which is non-specific or non-referential.

The first of the 'obligation/expectation' + human subject category, which was less well-represented for that period, was considered to be the following:

(16) A flat or dead irrelativeness, in point of merit, in him to whom grace is shewn or to be shewn, in reference unto him that **is supposed to** shew grace (a.1665 J. Goodwin *Filled w. the Spirit* (1867). 29)

This example has been classed as having an expectation reading, even though there is a possibility of a belief reading, as the context appears to refer to a sense of duty: similar examples are discussed below. The subject has been classed as human and specific (if only referring to a deity) and the infinitive is (arguably) stative, referring to a quality rather than to an event. Even including non-human subjects, however, the total figures for obligation/expectation readings number no more than 16.1%, the first example of one such reading with a non-human subject also appearing quite late in the period:

3. The non-stative complements are noted to have started appearing long after the start of the sampling period (1400), indicating an overwhelming tendency for *be/have* stative complements in the earliest uses listed by the *OED* sample.

(17) They are call'd Universities, or Universal Schools, by reason the four Faculties **are supposed to** make the World or Universe of study. (1728 Chambers *Cycl. s.v.* University)

Although in such examples the meaning of 'believed to' could not be excluded, there is nevertheless a sense of intention or purpose in describing the function of the (then!) universities which predominates in (17), but this is without doubt a later, gradual development, according to the present data. The subject is non-human, though, and therefore the example precludes obligation meanings. Examples which appeared to be ambiguous between belief and expectation readings included the following, with a human subject:

(18) He did not do as the rest did, who **are** all **supposed to** understand their trade.

(1687 A. Lovell tr. *Thevenot's Trav. II.* 170)

One would assume that the stative infinitive would invite a stative interpretation of belief in (18); however, the presence of a stative verb does not help to disambiguate the meaning of *be supposed to*, in which an 'expected' reading with a human subject can coerce a sense of volitional control over the state of understanding. There is no reference to future time in this example, something that Bybee (1985) and Visconti (2004: 184) believe is a necessary condition for the emergence of meanings of expectation or obligation out of 'belief' readings in other uses; the state of understanding is an on-going situation, co-temporal with the utterance. Nevertheless the obligation/expectation meanings are present, and seem to be arising as an ambiguity instead. It is not the same sense as is obtained in directive sentences such as *you must understand*, in which the subject is expected to effect a change to her cognitive abilities following the reference time of the utterance; the expectation is instead conjectured as a descriptive generic characteristic of the subject. However, the verbs appearing in (18) and (19) are still stative, and so can accommodate 'belief' meanings as well. Similar ambiguities arise with verbs such as *believe*, which can be interpreted as either 'come to believe' or simply to the state of belief:

(19) In this awful account they, who are set on the left hand, **are supposed** to believe in Christ. (1743 J. Morris *Serm. ii.* 52)

The volitional control which emerges in such environments is therefore a result of the fact that these stative verbs describing generic characteristics of their subjects are susceptible to ambiguous interpretation as inchoatives; the importance of this distinction will be discussed below. The figures vary little in the period 1801–1900 (Table 5.3), with the category 'belief' + non-human subject measured at 62.8% of the total, and the category 'obligation/expectation' + human subject at 14.8% of the total. The tendency for non-human subjects still prevails, at a total of 75.6% as against

only 24.3% of human subjects. Early examples which are typical of the 'belief' + non-human subject (the majority) category include the following (illustrating a non-finite use):

(20) The warmth of such places **being supposed to** promote the ripening of the cheeses. (1805 R.W. Dickson *Pract. Agric. I*. 59)

The meanings of expectation or intention for this period amount to only around 21.9%, indicating that the modal nuances are still not established to any degree. An example of unequivocal ambiguity with a non-human subject is the following:

(21) The excise duty on English malt **is supposed to** equilibrate the import duty on foreign malt. (1865 *Spectator* 4 Feb. 117)

In (21) the expectation reading is derived from a possible sense of purpose associated with the function of equilibrating the import duty on foreign malt, something which must be achieved with human agency. However, the speaker could also be expressing a generally-known fact or assumption about the function of the excise duty. The number of such ambiguities is very small, at only 11.1% in total including human subjects.

However, by the 20th century, we begin to see the ambiguities disappearing, as shown in Tables 5.3a-b, and the figures appear to be levelling out: the percentage of 'belief' + non-human subjects drops to 35.1% and the figure for expectation or obligation readings with human subjects more than doubles to 30.2%, to be almost equal to the 'belief' + non-human category. Typical examples can be said to induce 'obligation' readings, as in the following:

(22) The counts **were supposed to** keep order in their own gaus or 'shires' (1916 G.A. Holmes *Nemesis of Docility* i. 19)

While a 'belief' reading is still possible in (22), the obligation sense naturally derives from the reading of expectation or intention co-occurring with a human subject, but there is more to it than that. In such cases, the semantic context provides appropriate grounds for the creation of obligation senses: the sentence describes a customary action or duty imposed by authority. Such contexts will be discussed further below. In addition, Table 5.3a shows that the readings of expectation with non-human subjects also rise dramatically from 7% in the previous 100 year-period to 24.3% in the later stage, e.g.:

(23) Taiping tael gold coin. During the rule of the T'aipings in Nankin a gold coin was issued there **supposed to** represent 25 taels of silver. (1926 E. Kann *Currency China I.* i.13)[4]

There is a possible 'believed to' reading here, but the context lends itself equally to a sense of intention, despite the stative verb, as the issuing of the coin is likely to have been for a specific functional purpose in the society involving the intervention of human agency. The meaning of 'intention' is more likely than 'expectation' in such cases in which the subject is not human.

Such examples would accord with Visconti's (2004) suggestions that the meanings of expectation or intention imposed on the subject of *be supposed to* arise via invited inferences in specific environmental conditions. The data confirm that the rise of 'expect' meanings is accompanied by a general decline in the relative proportion of 'belief' readings for the same time period. It does appear that the newer meanings of expectation/obligation in the case of a human subject or intention and purpose for non-human subjects will gradually oust the older meanings of reported general belief, as the 'obligation/expectation' readings are already higher (in 1900–1989) than the 'belief' readings (54.5% as against 38%), as shown across both Tables 5.3a and 5.3b.

To summarise, the major trends appear to indicate that (a) there is a rise in the number of non-stative complements (nearly 20% between 1801 and 1989 – see Table 5.2), (b) that there is an increase in meanings of intention or obligation/expectation relative to belief meanings (see Tables 5.3a-b), and (c) an accompanying slight increase in the proportion of human subjects (see below). The questions which remain to be answered, therefore, are whether it was changes in the meaning of the semi-modal form which allowed for generalisation to more non-stative complements and human subjects, or whether it was generalisation to a wider range of complements which triggered the changes in the meaning of the form. Bybee (1985) and Visconti (2004) suggest that the changes in the meaning of the form took place when the time reference of the complement was future, but this also creates a circular problem: the time reference cannot be future until the meaning of the form changes to one of expectation (see (25)), and such a change cannot happen unless the aspectual environment of the complement of *be supposed to* generalises to perfective or non-stative predicates. In order to answer such questions, some of the examples will be studied in greater detail.

4. It should be noted that *be*-deleted relative clauses containing *supposed to*, which appears as only a participle form, have also been included in the survey.

5.5.1 Formulating a hypothesis

Clearly the change in the meaning of *be supposed to* cannot be related exclusively to the rise in human subjects as the totals for each period and the *relative* proportions of human to non-human subjects do not change significantly (though there is a slight rise in the later period). See Table 5.4:

Table 5.4 Percentages of human/non-human subjects in different periods

	Non-human	**Human**
1400–1800	72%	27.9%
1801–1900	75.6%	24.3%
1901–1989	65.3%	34.6%

The difference thus falls from 44.1% in the earliest period to 30.7% in the latest period, which is noteworthy, though not dramatic. What is evident, though, is the jump from 11.8% in the category 'obligation/expectation' (+ human subject) in the earliest stage, to 30.2% of the same category in the latest period. Examples such as (15) illustrate a frequent early association of the developing modal features with learned texts of a scientific nature, and non-human subjects. Such genres may provide the optimal environment for evidential functions to emerge, as they frequently strive to assert the difference between what can be claimed as known fact and unconfirmed facts about which only general opinions are available. (Nöel (2001: 290) notes that the predominant contexts for the passive evidentials he describes, which include *be supposed to*, are either journalistic or scientific.) Passive evidentials are thus frequently used in English to convey uncommitted, indirect reports of an unidentified source or sources, and to maintain the anonymity of the sources when the reports represent only hearsay. Although the data sources have not been systematically compiled, even for a haphazard selection, such functional biases are fairly obvious. At later stages the contexts increase to include also fiction and non-fiction texts, e.g.:

(24) We **were supposed to** pick up all the cats at the Braddock Motel, near the stage entrance of the Apollo. (1956 B. Holiday *Lady Sings Blues* (1973) xii. 112)

It may be hypothesised that the early stages were largely marked by a tendency to appear either with stative verb types or with non-stative (perfective) verb types in statements describing time-stable truths or generic situations. In the later stages, the tendencies appear to shift (see Tables 5.3a-b) to mark a greater number of event-specific, predictive statements, like (24), with mainly perfective or non-stative complement verbs and often with specifically-referring subjects and objects. While the lexical aspect remains constantly non-stative in the complement verb,

it is the grammatical aspect which shifts from time-stable, habitual and generic situations spanned across speaker time, to non-time-stable, changing, predictive situations describing single, bounded events occurring after the moment of speaking or after another reference point.

At the same time, though, Table 5.1 also illustrates the sharp drop in *be/have* stative verb complements over the time period (72% to 57%) and the rise of non-stative relative to stative complements other than *be* and *have*, which is especially shown by the sharp increase in the 20th century data represented in Table 5.2. The overall proportion of stative to non-stative for the whole period (apart from *be* and *have* complements) is quite small: 22.7% stative: 77.2% non-stative, a difference of almost as much as 55%. These statistics indicate that some change in the grammatical environment is taking place which enables a shift from a stative to a non-stative complement, and within the non-stative complement shift, from an imperfective aspectual situation to a perfective one.

For a meaning of 'believed to' to prevail, the complement verb must be either typically stative and referring to a time-stable state or condition; thus:

(25) a. She is believed to be tall

is more acceptable than

b. ?She is believed to flee the country next week

However,

c. She is expected to flee the country next week

is quite normal, while,

d. ?She is expected to be tall

is somewhat marginal, unless (25d) implies the future event of discovering something previously unknown about the subject referent, i.e., *expect*, as a raising predicate, expresses prediction. Thus, the co-occurrence conditions seem to state that *believed to* must have stative or imperfective verb complements, and *expected to* must have non-stative or perfective verb complements. However, the data reveal an increasingly large number of 'believed to' meanings co-occurring with non-stative, perfective verb types, e.g. (26):

(26) Some of the *cyclostomous fishes **are supposed to** connect the fishes with the Annulosa. (1826 Kirby & Sp. *Entomol. xlvii.* (1828) IV. 427)

What this combination creates, as noted above, is an expression of a habitual or generic nature, describing a recurring event ranged over an indefinite time period or over an indefinite number of participants. In (26), the subject is also ge-

neric, though this is not a criterion for this particular function. It is hypothesised that such generic uses are an intermediate stage between the stages represented in (25a) and in (25c) above in which the co-occurrence restrictions on the passive matrix verb are revealed using synonymous verb forms. This intermediate stage is created by the aspectual incompatibility of the matrix verb meanings (time-stable states of cognition) with the complement verb meanings (dynamic actions), and is indicative of a change in progress towards modalisation. Contributing to the change towards 'expected to', predictive meanings and modalisation is the lexical retention of direction senses in the grammaticalised infinitive marker, *to* (see Haspelmath 1989, Fischer 2000 and Fitzmaurice 2000, on the grammaticalisation of the infinitive marker), which is invoked in the environment of a perfective verb type, so that the semantic equation: BELIEVE + DIRECTION = EXPECT is created anew in the matrix verb. The lexical retention is not invoked in the environment of a stative complement verb, as the aspect of the complementing verb is imperfective and unbounded, and the action referred to by the verb cannot therefore constitute a directional goal in time. The semantic shift entails a type of change in which a semantic or functional contextual property is reanalysed as an inherent property of a syntactic item within that context, a hypoanalysis (Croft 2000: 126); in the present case, senses of direction or purpose in the context become an inherent property of the semantics of the matrix verb.

However, the role of the infinitive marker can only be a contributory factor to a change of meaning which needs to have begun in an ambiguous context initially; if not, all the early examples of 'belief' readings (with present time reference) could alternatively be interpreted as 'expectation/obligation' readings (with future time reference) simply by the attachment of a *to*-infinitive complement. It goes without saying therefore that such a context would be found when the belief meanings co-occurred with human subjects, providing semantic environments that readily supported both 'belief' and 'obligation/expectation' meanings. The only environments which can sustain both belief and expectation readings (i.e. those pertaining to both present and future time reference at the same time), with perfective predicates, are those which describe generic characteristics of their subjects; i.e. habitual activities. These environments have been described in 5.1.2 as 'stative in interpretation' by McDowell (1991); i.e. as noted above they are a hybrid category of aspect having perfective lexical aspect and imperfective grammatical aspect, and as such, can lend themselves readily to transitional environments in the grammaticalisation of modality. Some of these have already been described for non-human subjects, e.g. (15). Others, with human subjects, are less obvious, such as (22) and also the following earlier example:

(27) They [elders] **are supposed to** act in a kind of co-ordinancy with the minister. (1796. Morse. *Amer. Geog.* Ii. 157)

In this example, the sense of habitual activity arises from the combination of the (non-specific) human subject with a non-stative complement: with non-human subjects, as in (26), the reading describes a generic characteristic of the (non-specifically-referred) cyclostomous fish, rather than a habitual activity. However, (27) can also be read as expressing a sense of customary duty undertaken by the subject. Westney (1995) also pointed out this ambiguity in examples such as *Catholics are supposed to go to church on Sundays* (1995: 176), in which the 'belief' of a generic characteristic attributed to the subject overlaps with the 'expectation' of the subject's customary duty or obligation, in generic sentences. It is such lexical environments which are considered to have been the 'beach-head' (to borrow a term from Givón 1994) for the development of obligation meanings in *be supposed to*: a generic, human subject in combination with a complement verb which is non-stative (or stative-inchoative), in a semantic context in which a habitual act is also regarded as one of duty or custom. However, the sense of customary duty is not necessarily derived ambiguously from the hearsay evidence of a subject's habitual activities, after all, it is not necessarily the case that a sentence like *John is believed to smoke* will automatically lead to the inference that *John is obliged to smoke*. It could be argued that the repeated observation of a frequent, habitual activity often invites the inference that the subject is performing a customary obligation, as one does not usually repeat actions habitually unless they are either necessary or desirable. With a human subject, such inferences could well be created. Another possibility is that the meanings of hearsay expectation arise out of a general sense of probability created in the context of recurring evidence of a habitual or generic situation (see Chapter 6), and these are in turn, reanalysed as involving the subject (*John is believed to smoke* 〉 *John is expected to smoke*, in which the hearsay belief is strengthened to an expectation). What develops from such reanalysis, though, is the introduction of speaker-subjectivity discussed earlier as associated with deontic and epistemic modality. (27) could easily be read as a deontic directive imposed by the speaker/writer, derived from an evidential basis of first, general belief, then general expectation on the subject by an unknown source. Once the expectation becomes generalised as hearsay from a large enough source of 'expecters', it is only a small step to imposing obligation on the raised passive subject, and deontic modality on the part of the speaker will express the formerly generalised obligation imposed by a generic, evidential source. However, what should be noted in all of these examples is that, as illustrated in (24) and (25), an unambiguous obligation/expectation meaning will always be present when not only the subject is human and specifically-referring, but also when the object argument of the main verb is specific, thus indicating

the importance of compositional features of aspect in which the verb arguments also contribute to the overall aspectual interpretation of the utterance (see Verkuyl 1993; 1999). (24) is the only example, of all the deontic uses so far, which expresses obligation with a specifically-referring object (*all the cats*).

The stages prior to the development of obligation cannot then be said to be epistemic modal stages, as although they refer to a stative situation in describing a generic characteristic of the subject, epistemic modal verbs cannot be converted into questions, as noted earlier. This leaves open the question how to categorise the pre-obligation functions, and it seems only appropriate to agree with Chafe (1986) and Nöel (2001) that they must be classed as evidentials, in particular, quotative evidentials, as they report on what is claimed by other people rather than expressing the speaker's opinions on the truth of a situation. Thus the reporting of a generic state or timeless truth is only one step away from endorsing the report oneself.

This might assume that epistemic modality should develop as a natural outcome of a prior stage of evidentiality. However, the evidence from *be supposed to* does not suggest that that is the case; instead a stage of deontic modality appears to be emerging in the form of obligation senses, perhaps because the source of evidence forms the basis for the prediction of an expectation relating to the future, and anticipated future acts usually refer to deontic or non-epistemic modality, as noted above. Thus there is no reason why an evidential may not be the source of deontic modality as well as epistemic modality.[5] For deontic modality to emerge, the subject must be human, but in the present data, there is no indication of a dramatic increase in the number of human subjects in the time periods covered that would lead to the hypothesis that such an increase was responsible for the development of deontic modal meanings. Furthermore, if, as Visconti (2004) suggests, the expectation meanings arise out of future time reference in the construction, then that future time reference must be derived from the presence of a non-stative, perfective verb in the complement, referring to action not concurrent with the moment of utterance. However, the presence of a non-stative predicate alone will not exclude ambiguous 'belief' meanings, as (27) shows. The only environment in which 'belief' meanings are excluded is when there is a future temporal adverbial present in the context, as shown in (25b). Even in the presence of a specific, human subject there is no guarantee of the meaning being unambiguously obligation: *Catholics are supposed to go to church on Sundays* has both a generic subject and a generic time adverbial, but *Mrs. Brown is supposed to go to church* has neither, and can still be interpreted ambiguously. However, *Mrs. Brown is supposed to write the*

5. See Nuyts (2000b: Ch. 6) who proposes that most cases of German and Dutch modality be derived from evidential sources, and that deontic and epistemic pathways may run parallel to one another, rather than in a diachronic order.

letter, is less likely to express ambiguity due to the presence of a specific, quantified object, thus supplying boundedness to aspectual conditions in the lower-clause predicate. The shift from generic to deontic meanings with future time reference, then, must have involved not just verbal aspect but the compositional aspect of entire propositions, and verb arguments are seen to contribute to such changes also (c.f. (24), discussed above). This illustrates that even compositional theories of aspect (e.g. Verkuyl 1972; 1993) may have a role to play in explaining modal derivations at the aspect-modality inerface.

The tendency for 'belief + stative' and 'obligation/expectation + non-stative' meanings to collocate, illustrated in (25), would be troublesome if it were not for the fact that certain stative complements, as seen in (18) and (19), produce meanings which are ambiguous between belief and obligation. In (18–19), the ambiguity is created by the presence of a human subject and the likelihood that the complement refers to generic characteristics of the subject which can be associated with regulation or obligation. The inferences created in (19) may coerce or induce an inchoative aspectual boundary on the stative complement verb, which logically does not have one (it is imperfective), and the meaning 'believe', for example, is thus interpreted as 'come to believe', as noted earlier. Such verbs (which, as well as *believe*, include *understand*, *love*, *hate* and others), though stative, can induce a sense of control in their subjects in particular environments and can thus provide the bridge between different stages of grammaticalisation: they are ambiguously imperfective and perfective; in fact, Binnick (1991: 184–5) has described such verbs as 'volitional states' in that they allow for volitional discontinuity and hence are more like activities aspectually. In the case of (18), the state of understanding is represented as a state over which the subject can be held to have some volitional control as well. Nöel (2001) suggests that the development of passive matrices constitutes a viable case of incipient grammaticalisation (by which he was referring mainly to their syntactic function as auxiliaries), and the results of the present study reveal facts about pre-modal semantic development, which should not, however, be necessarily interpreted as a counter-example to unidirectionality (as also agreed by Visconti (2004) for a different set of data). The meanings of modality arise out of certain aspectually 'hybrid' environments, in which either the complement verb is perfective but the grammatical aspect is generic and hence imperfective, or the complement verb is imperfective but can generate inferences of inchoativity, volition or control, enabling metaphorical aspectual boundaries of perfectivity to be created. When either of these two aspectually hybrid environments co-occur with a 'belief' matrix verb, the meaning of the matrix verb changes to one of expectation or obligation.

In the case of the semi-modal *be supposed to*, then, the questions raised at the beginning of the chapter can now be answered: the aspectual nature of the

complement verb does affect the development of modality, and 'belief' readings, co-occurring with non-stative verbs and describing characteristic attributes of the subject, an evidential stage, lead via hypoanalysis to expectation meanings and to obligation meanings when generalised to include human subjects; stative complements may also do so if the stative verb is alternatively interpretable as inchoative or a state over which the subject has control. When the form spreads to use with non-stative verbs with individuated or specific verb arguments, there is no further ambiguity and the deontic meanings are in focus. The early stages are evidential, not epistemic, as they permit conversion to interrogatives. They are, then, a pre-modal stage of development; the frequency of modality meanings does not increase significantly until the 20th century, according to the results of the present survey, when obligation meanings appear to be most dominant. The two semantic categories of 'belief' and 'expectation' can be hypothesised to emerge out of one another in particular environments, rather than representing parallel pathways. It is not merely the generalisation to human subjects which characterises the semantic change taking place, but a combination of factors, including the generalisation to human subjects and to complements describing generic characteristics of their subjects or frequent, habitual activities, which must contain perfective or non-stative predicates (or stative-inchoative pedicates, as shown in (18–19). The pathway of development may be hypothesised to follow three main stages of progression, according to the trends shown in the present data:

(28) a) BELIEF + STATES (stative verbs)

→ b) BELIEF + QUASI-STATES (generics/stative-inchoatives)

→ c) BELIEF + (SINGLE) EVENTS (perfectives)

In the final stage of the path, (28c), the belief in an event implies an expectation, especially if the event refers to a single, specific occasion and the verb has specific or quantifiably bounded arguments, as in (24), or contains future temporal adverbial reference. It is these environments that are identifiable with the early stages of emerging deontic modality. It should be noted, though, that the events referred to in (28c) can only be made perfective or terminative by the addition of quantifiably bounded arguments; e.g. *She is supposed to jump* can remain ambiguous (belief or expectation) until a specific object is added: *She is supposed to jump the wall* (a habitual action would be unlikely, thus motivating reference to a single event).

5.5.2 Other modals from generic sources

It is likely that the same patterns of development may occur with other modal forms, though naturally the changes may be affected by different modal functions.

One example previously considered was *be able to* in past contexts (Ziegeler 2001). This form begins in Middle English as a periphrastic means of describing the generic characteristics of the subject (a characterising use), only later occurring to mark specific events and accomplishments. The following examples are taken from the Helsinki Corpus, and illustrate the generic use:

(29) But yet wee must say plainely, That it appeareth strange vnto vs, when wee **were able to** shew it, that since the comming to our Crowne, it was never denyed vs by any of his predecessors (1570–1640 Robert Cecil *The Edmondes Papers* (ed. G.G. Butler), p. 402)

The example has been used to suggest that particular environments were instrumental in promoting a function of marking specific events, as no such uses appear in the Helsinki Corpus prior to the early Modern English period. The environment in (29) is that of a temporal clause introduced by *when*, which in certain cases is potentially ambiguous between a generic sense of temporality ('whenever') and a marking of a single event. It is such environments that may have contributed to the development of 'achievement' senses in the past form of the modal and predictive modality senses in the present tense forms. Another example is the following:

(30) And Caleb stilled the people before Moses, and said, Let vs goe vp at once, and possesse it, for we **are** well **able to** ouercome it. (1611. *The Holy Bible (Numbers* XIII, 30*)* Oxford University Press, 1911)

This is one of four examples that appear in the entire sample of only 56 present tense forms of *be able to* in the Helsinki corpus from Middle English to Early Modern English with a complement referring to a specific event.[6] The past tense forms will not be discussed any further, as they are believed to express an aspectual function rather than a modal one. As far as the present tense forms are concerned, the relative paucity of examples with event-specific, future-projecting complements like (30) is noteworthy, and may suggest that the use of *be able to* as a predictive modal is relatively rare. A further overview of the *OED online* revealed that very few instances of present tense *be able to* appeared in main clauses with a complement referring to a specific event in the future, a total of 10 examples out of a total of 592 (approx. 1.7%) dating from 1630 to the present day. (Rare) examples included, e.g.:

(31) At long last I **am able to** say a few words of my own (1936 KING EDWARD VIII in *Times* 12 Dec. 14/4 (*abdication speech*))

6. One section of Middle English (IV) was unavailable. Of the other three examples, one was found in a non-finite form, and another was in present perfect form, so describing a past event.

Eight out of the ten were found with a first person subject, e.g.:

(32) To-day **we are able** to publish the first photograph of one of his Majesty's land ships which have been making such successful cruises on the sea of mud on the Somme. (1916 *Daily Mirror* 22 Nov. 1/1 (*caption)*)

The majority of the uses appeared with either a generic, indefinite subject or object, or referred to a general proclivity, ability, or characteristic of the subject ((31) and (32) illustrate an ability that has just been acquired rather than an inherent characteristic of the subject). It is assumed, then, that the present-tense form is still at an early, pre-modal stage of development, expressing only general truths about a situation. The appearance of predictive uses primarily with a first person subject is due to the possibility that first person subjects are usually co-referent with the speaker, and the speaker as subject is likely to represent a more reliable source of prediction about the actions of the subject than about those of another subject referent. It is at this point, therefore, that generic functions are likely to provide the best evidential information for making future predictions. However, with such a small amount of data, such assumptions can only be speculative. A larger survey might reveal different tendencies.

5.5.2.1 *Hypothetical modality*

It might also be noted, however, that in the same study, the past form of the modal *could* was surveyed, and 68% of the Middle English main clause uses were found in environments describing past habitual or generic characteristics of the subject, e.g.

(33) Wel **koude** he sitte on hors and faire ryde.
He **koude** songes make and wel endite (1350–1420. Geoffrey Chaucer, *The General Prologue to the Canterbury Tales*, (ed. L.D. Benson), p. 25. C1)

This number dropped dramatically in the Early Modern English period to less than 10% of the total main clause uses. Even more significant is that there was no historical evidence in the use of *could* for a function marking the past accomplishment of an event, and it appeared as though the modal meanings (for the positive form) shifted immediately from describing habitual characteristics or attributes of the subject (a generic use) to a mainly hypothetical future marker (27.1% in positive main clauses, negative forms occupying a major proportion of the other uses, which were ambiguous between expressing past non-achievement and future non-potentiality). The absence of an intervening stage in which the positive form of the modal marks past accomplishment in main clauses lends support to the possibility that, like *be supposed to*, *could* develops predictive, hypothetical meanings directly out of an evidential base of generic functions describing characteristic events or attributes, and that the same generic origins can be attributed to *be able to*. Thus,

the early stages in its development might not even be describable as modal, and in excluding ability modals from the paradigm, Bybee et al's (1994) inclinations, as well as those of Palmer (1986), might well be justified. Instead, ability modals may also express evidentiality, the first modal meanings appearing in the use of *could* to derive hypothetical, future-projecting functions, and the first use of (past tense) *be able to* to describe actuality being found in situations in which the semi-modal occurs in a perfective aspectual environment. For such examples, again, the onset of modality does not begin until future-projecting senses start to arise.

5.6 Summary

The present chapter has attempted to solve a number of problems surrounding the development of the semi-modal *be supposed to,* and to contribute to a more in-depth knowledge of the factors involved in the pre-modal stages of development. It is shown that it is changes in the aspectual environment of the pre-modal form that contribute to the onset of modal nuances, with the shift to predictive senses occurring in contexts in which a habitual human activity can presuppose a social obligation, general obligation entailing event-specific obligation at later stages. The shifts in verb aspect from imperfective to perfective processes are also noted in earlier studies on ability modals. It is hypothesised that modality in all such cases emerges from future predictions which are derived from an evidential basis of observations of a habitual activity or frequently recurring event spanned over an indefinite time period. The existence of a generic situation provides the logical steps in which general truths may give rise to prediction, hypothesis, and deductive inferences (though it should be noted that inferences typically do not refer to the future – see Salkie (1996)). Hence general truths provide the optimum pre-modal semantic environment for the gestation of modal nuances, either deontic or epistemic, and it is from an aspectual basis that such modal nuances are first seen to emerge. The aspectual contribution of generics to the aspect-modality interface is a question which will be further addressed in Chapter 6.

The limited data do not permit one to do more than predict patterns at this stage, and it would be inappropriate to generalise such a hypothesis to other modal forms without adequate evidence. However, it is possible that traditional pathways of the development of the core modal verbs may be reflected in the pathways of the semi-modals, and the present chapter offers a hypothesis that can be proven with a more extensive survey. The next chapter, Chapter 6, will provide further discussion on the origins of modality in generic aspectual meanings in an example of a core modal verb, *will*.

CHAPTER 6

Generic aspect in the emergence of future *will*

In the previous chapter, it was seen how the early stages of development of a semi-modal form expressing obligation in English are inextricably linked with the production of evidential inferences from frequent association with generic aspectual environments. It was hypothesised that obligation senses arise from the use of the form in event-specific environments and with human subjects, and that ambiguous environments include those in which a habitual or frequent event in generic environments with a human subject is reinterpreted as an obligation of the subject performing it. In the present chapter, the same evidential basis for the development of modal inferences is observed in the early uses of the modal *will*, and it is noted that the majority of the volitional lexical source meanings as revealed in a set of Old and Middle English data are expressive of a general tendency rather than a specific volitional desire or intention. The data will be considered in the framework of an aspectual basis for the development of modal meanings which is grounded in the representation of generics as interface categories between aspect and modality.

It was noted in Chapter 5 that in recent studies of modality in English and other languages, a central preoccupation of many researchers has been to find an all-encompassing semantic description to suit the great range and variety of meanings which are now classified under modal (or semi-modal) categories, and most major works on modality over the past decade have focused on revising or expanding the various traditional dimensions of modal meaning primarily associated with the former Greek notions of root modality, deonticity and epistemicity (e.g. Bybee, Pagliuca and Perkins (1994), Coates (1983), Givón (1994), Larreya (2004) and Van der Auwera and Plungian (1998), to name a few publications). Further problems have arisen in the fact that modern typological studies into non-Indo-European languages have necessitated a description of modality which is much broader and more inclusive than anything previously described, and is often associated with the general notional term, irrealis (see, e.g. Bybee et al (1994), Bybee and Fleischman (eds., 1995), and Bybee (1998)). While the problems of classification will not be a focus of great concern in the present chapter, the more inclusive framework of describing non-epistemic modality referred to in Chapter 5 will be further adopted in this chapter as a means of categorising modal mean-

ings such as volition, which cannot be described as deontic or agent-oriented according to present definitions.

Chapter 5 also raised questions which have emerged in diachronic studies, relating to the relative order of appearance of different modal functions. In previous studies of English modality, it has been demonstrated that pragmatic inferences are historically associated with the development of different modal meanings (see Hopper & Traugott (1993[2003]); Traugott (1989); Traugott and Dasher (2002)), and there is little dispute that such inferences play a role in the development of modal verbs via grammaticalisation with a tendency for deontic, or root meanings to appear historically earlier than more abstract, speaker-subjectified, epistemic meanings. The progress of deontic modal meanings to generalise into epistemic meanings had been described as a paradigmatic example of grammaticalisation by Plank (1984: 308); however, even these established beliefs have been open to question, and studies such as Warner (1993) have found epistemic uses appearing as far back as Old English times. It remains, therefore, to investigate more intensively the ways in which modal meanings are classified in historical texts, and to justify such phenomena within the context of grammaticalisation theory. Relevant questions that are left unanswered include how to explain the presence of generic functions in *will* in Old English, when, according to Bybee (1988), such functions have been associated with post-predictive meanings, and predictive uses of *will* were extremely restricted at that time. The present paper will therefore include an investigation into the typical functions of this modal in Old English, with particular attention given to the linguistic environments and the nature of the subjects with which the modal co-occurred. It is hoped that such examples will provide a more generalised illustration of early modal development, and will help to determine the precise point at which modal meanings may be said to emerge in the history of a language. They may also indicate what kinds of linguistic phenonema must be present in order to bring about the historical shift from a pre-modal function to a modal one.

In order to best explain the functions that *will* performed in Old English, it will be necessary to discuss the place of the modal within the framework of the traditional classes with which it may be likely to be associated. In the first two sections (6.1–6.2), a descriptive review of the English modal verb system will situate the development of *will* within the perspective of other accounts of modality from the point of view of factors of speaker knowledge, and a brief summary of the various present-day functions of *will* as described in the literature will be provided. In the third section (6.3), previous studies of the historical sources of *will* will be reviewed, and in 6.4, data illustrating early uses of mainly non-volitional *will* obtained from a number of texts in the Helsinki Corpus will be presented; the data will be discussed in the fifth section and compared with the functional distribution of the modal in a random selection of present-day uses. It will be shown that

the pathways of development found for the grammaticalisation of this particular modal may diverge a little from previous accounts, and the nature of generic uses of modal verbs will be seen to play a primary role in the early development of the modal. Comparison with the semi-modal, *be supposed to*, as seen in Chapter 5, shows that this situation holds across more than one example, and that the direction of early development of modal meanings is largely influenced by the presence of particular features of the linguistic environment in which it is first located.

6.1 Categorising *will*

One of ways in which *will* varies from other modals studied in the diachronic literature is that it does not seem to develop through a stage parallel to the non-epistemic stage of deontic modality. It could be argued that the source meanings of 'desire' and 'intention' are held to be parallel to such a stage, but on the other hand, desire and intention are volitional and purely volitional meanings are lexical, so it is not clear at which stage the modal meanings begin. However, the problem is exacerbated by the fact that exactly what non-epistemic modality represents in other modals is also frequently a matter for question. Although most accounts agree on the broad division between epistemic modality and non-epistemic modality (as noted by Van der Auwera and Plungian 1998: 84), it is exceedingly difficult to find a suitable and consistent means to capture all the semantic nuances of non-epistemic modal verbs, or even to determine whether all non-epistemic modals can in fact be classed together as one category. In the present study, all modality (including epistemic) which is not hypothetical or counterfactual will be broadly categorised as non-factual. Some of the existing descriptions are summarised below.

6.1.1 Root, deontic, epistemic and participant-related categories

As noted in Chapter 5, most traditional treatments of modal verbs in English make distinctions between deontic and epistemic categories, with 'root' modals covering a wider range of non-epistemic meanings than deontic (see, e.g. Coates 1995). The word *deontic* comes from the Greek meaning 'binding' (Allan 2001: 359) and thus the meaning of present-day deontic modals usually refers to the permission, instruction, or prohibition imposed on an actor to undertake an act, as illustrated in the use of the modal *should* in (1):

(1) Parents **should** look to other countries to see how standards are being upheld and maintained.

http://straitstimes.asia1.com.sg/topstories/story/0,4386,264847,00.html?

Epistemic modals, on the other hand, are said to refer to the speaker's judgement on the truth of a proposition (Palmer 1990: 6), the word *epistemic* being derived from the Greek meaning 'knowledge' (Lyons 1977: 793). Larreya (2004) believes that the distinctions of 'root' versus 'epistemic' are not restricted to the domains of modality alone, but can be applied to human mental activity in the domain of affect and/or action, and that of knowledge; these distinctions are familiar to psychological studies. Epistemic meanings are illustrated in (2), an example from the *British National Corpus*, in which the same modal *should* can be used to express the speaker's evaluation or degree of knowledge of the truth of a situation:

(2) As a result, 1993 and 1994 **should** be important years for LASMO as exploration drilling proceeds in Algeria, Libya, Yemen and Vietnam, each of which is considered to offer significant potential. (GX8 317)

Larreya further believes that the relation between root and epistemic modality is due to differences in an elliptical or metonymic process, and that the expression of a sentence ambiguous between root and epistemic modality; e.g. *He must eat a lot of bread* is evidence of an overlap in speech-act propositions: 'something requires that he eats a lot of bread' vs. 'something requires that I think that he eats a lot of bread'; in other words, the relationship is built on the potential for an epistemic predicate to be reconstructed in the context (Sweetser (1990) considers such a relationship a type of metaphor). Epistemic modality normally co-occurs with stative predicates, as indicated in Chapter 5 and as shown in (2), though the reference time does not always coincide with the utterance time. In (1), on the other hand, the deontic meaning is derived by the co-occurrence of the modal verb with a non-stative predicate, *look*, indicating that factors of the linguistic environment, such as the lexical and grammatical aspect of the complement verb, are often influential in determining what modal meanings and thus what type of modality is expressed.

However, Palmer (2004) disagrees that lexical aspect is always a reliable indicator of the different domains of modality; e.g. examples such as:

(3) He must come tomorrow

are considered as marginally epistemic, in spite of the later reference time and the presence of a non-stative verb in the complement. This example is unusual in that it has reference to a specific time and therefore cannot express generic aspect as other examples of non-statives used in non-deontic senses (see 5.1.2). Larreya's example above does not express generic aspect either, as it cannot be substituted with the non-modal expression *he eats a lot of bread*. Such examples would appear on the surface to be epistemic if it were not for the fact that the time reference is future. Epistemic uses of *must*, however, generally involve deductive inferences over an existing state of affairs (e.g. *That must be the postman*), and if we are to make

deductive inferences about the future, then sufficient evidence must be available to admit the deduction. Statements made about the future, though, are predictive, and involve inductive inferences from evidence available in the present or past. It is possible that the use of *must* in such examples is therefore a strong inductive inference, and introduces a prediction rather than a deduction; in other words, the use of *must* is grammaticalising to express future probability as well as present and past probability. In some dialects, epistemic expressions such as *He must be coming tomorrow* or *He has to come tomorrow* might be preferred, the latter example illustrating the need for a semi-modal to take the place of a core modal in environments where the core modal is only marginal.

Van der Auwera (1999) and Van der Auwera and Plungian (1998) describe participant-related modality, and refer to this as categorizations which cut across all the classical definitions of deontic versus epistemic modality, while at the same time retaining the autonomous category of epistemic modality, which appears to be, at least on the face of it, indisputable with regard to defining characteristics in most accounts. Participant-internal and participant-external modality refer more to the source of the modality than to the semantic characteristics it embraces (deontic modality being a hyponym of participant-external modality), for example, the semi-modal *can* in (4) is participant-external (with no reference to any particular source of enablement, the source being of a general nature (Van der Auwera & Plungian 1998: 80)):

(4) To get to the station, you **can** take bus 66.

The categories postulated by Van der Auwera and Plungian (1998) do not make particular reference to any ordering of the modality types with respect to historical precedence, but they do postulate clearly defined notions of what meanings may be found associated with pre-modal stages, and also with post-modal stages, illustrating the possibilities found in crosslinguistic studies. However, they are useful for the fact that, while they tend to restrict semantic characteristics mainly to their association with only the pervasive core notions of possibility and necessity in all cases, they do not attempt to reduce typological data to the constraints of classical, Indo-European modal characteristics, expanding and laying open to question what was traditionally argued for as a universal route of development, and offering a number of alternative paths of development instead.

6.1.2 Dynamic and participant-internal modalities

Can is also used as a participant-internal modal, and *will* could be added in the present study, though *will* is not discussed as such by Van der Auwera and Plungian, since they limit participant-internal meanings to those expressing possibility

and necessity as well. (Epistemic *will*, though, which follows future *will*, is described in their account as having a necessity meaning.) However, it could not be denied that volition, the source meaning of *will*, is related to participant-internal motivations. In their past forms these modals have been typically associated with hypotheticality (though they are not the only forms associated with such meanings).[1] They are also set apart from the deontic and epistemic modals of traditional accounts by Palmer (1990) in his description of them as dynamic modals, as noted in Chapter 5, for example:

(5) And at least one, a Labour MP, **can** speak six [languages] – English, Italian, Swedish, French, German and Welsh – and read Danish and Norwegian.

http://education.guardian.co.uk/egweekly/story/0,,1213367,00.html (11/5/2004)

(5) is readily interchangeable with *At least one... speaks six [languages]*, in which a general fact about the subject is expressed, and is unrelated to any opinions or any power imposed by the speaker on the situation. As noted earlier, the dynamic modals were considered by Palmer only marginal candidates for modal verb status. If such auxiliaries are not really modals, it would seem to indicate, then, that dynamic modality, which describes the inherent characteristics of the subject it qualifies, is used to make assertions; Li (2003) even goes so far as to label such modals as 'factive'. The difficulty lies in determining, in such cases, where the assertion ends and the prediction begins; you cannot express ability on the part of the subject without an implied sense of possibility arising from it. Thus it may be wise to include dynamic types within the traditional modal framework after all.

6.1.3 Speaker-knowledge as a common pragmatic factor

In Chapter 5 was also discussed the use of role-oriented categories and the indeterminacy of referring to agents when the action described is only potential, rather than performed. With so many variations in the description of modality, it seems necessary to find a more consistent means of discriminating between the main modal types. The definition of epistemic modality is generally related to the degree of knowledge that a speaker holds over a situation, and this is expressed in the form of a judgement or a deduction in most cases. Non-epistemic modality has not been accorded such a clear-cut definition, and is usually described with reference to the

1. Interestingly, though, today's deontic modals *may* and *must* also started out life as participant-internal forms of ability (see, e.g. Traugott 1999); *can* has retained such participant-internal meanings whereas *may* and *must* have grammaticalised further, with an accompanying shift in the type of speech act involved from one which is reported by the speaker of another participant rather to one which is imposed by the speaker on another participant.

lexical sources from which the modal meanings first arose. It should be emphasised, though, that non-epistemic modality is not exempt from the constraints of a knowledge-based interpretation either. Givón (1994: 275) notes that the semantic common denominator to all sub-modes of irrealis meaning is that of epistemic uncertainty, whether the sub-mode is deontic or epistemic. For example (1994: 275):

(6) She should go home

with a deontic meaning carries the presupposition that 'she hasn't yet gone home', and

(7) He wants to leave

carries the presupposition that 'he hasn't yet left'. However, epistemic uncertainty may not be a factor, as Heine (1995: 29) also points out that the conceptual properties of German agent-oriented modal verbs include property *L* (for 'later' than reference-time) which stipulates that the event complemented of the modal verb has not yet taken place at reference time (= utterance time), and Traugott and Dasher (2002: 116) suggest that the reference time of a 'prototypical agentive deontic' is always later than utterance time. Huddleston (1995) notes that the deontic reading of, for example, *He should be at school now*, indicates that the speaker *knows* the subject is not at school now, and this is what distinguishes it from an epistemic reading. Although Coates (1983: 235) argues that the core root modals are non-factive in that the speaker is committed neither to the truth nor the falsity of the predicated proposition, this is only to suggest that the truth or the falsity of the future actualisation of the proposition is not known. It could be contended that it is impossible to express, felicitously, a deontically-modalised utterance without reference to the speaker's knowledge of the factual status of the modal complement at the time of speaking.

Deontic modality, therefore, differs from Palmer's dynamic modality in one important way: dynamic modality is interchangeable with non-modal, factual assertions which refer to omnitemporal characteristics of the subject (e.g. (5)). This is why it would seem then that this category should not be included as modal at all, since it expresses a situation in which the speaker has implied knowledge of the actuality of the proposition contained in the complement. However, the actuality may not coincide with speech time, or any other reference time known to the speaker; thus it is equivalent to a generic situation (e.g. *John can speak Italian* (Palmer 1986: 102), and because of this, the factuality of the proposition is diminished. A deontic modal expression (and some examples of participant-external modality, in Van der Auwera's and Plungian's terms) carries with it only the presupposition that the speaker has knowledge that the complement proposition has not yet been actualised at speaker-time (e.g. *You can speak Italian now if you like*);

this is largely a result of the fact that the deontic modal also expresses meanings that result in future state-changes (Heine 1995: 29). Thus, deontic modality might be seen as a kind of metonymic extension of dynamic modality – the knowledge that *p* is not actualised at reference time (deontic) standing for the knowledge that it is implied as actualising at any time but not necessarily reference time (dynamic). The difference between the two types of modality could be thus expressed, based on pragmatic estimations of speaker-knowledge within the context, using the notation of a knowledge-operator, for example, *K*:[2]

(8) a. Dynamic modality: K[p]
b. Deontic modality: K[~ p]

That is, dynamic modality carries the presupposition that the information contained in *p* (the complement proposition) is known to be true by the speaker, while deontic modality carries the presupposition that *p* is known not to be true by the speaker.

In the case of epistemic modality (e.g. (2)), the presence of the knowledge-operator itself is open to question; it could be suggested, then, that

(8) c. Epistemic modality: ~ K[p]

best typifies what can be referred to as the degree of knowledge presupposed in the use of epistemic modality: epistemic expressions convey deductive inferences and although deductive epistemic inferences often convey strong probability, including necessary truth or truth by definition, the modality is still not the same as that of factual truth, which is truth as fact known to the speaker (see Givón 1989: 129).[3] If the modality in (8c) expressed factual truth, it would not require a modal qualifier at all. For example, *may* and *must* in (9):

(9) a .... a huge tidal wave **may** be set to wreak havoc on the coasts of Europe, Africa and America as a result of a catastrophic landslide in the Canary Islands...

http://education.guardian.co.uk/higher/research/story/0,,1280257,00.html (10/8/2004)

2. The use of the operator *K* to express speaker knowledge was first applied to scalar implicature situations by Hintikka (1962), as noted by Levinson (2000: 76–7). The present use of the same operator has a similar application in that it encodes speaker knowledge, though, to present knowledge, it has not been used to distinguish modal verb classes before.

3. (8c) may appear to convey the definition of knowledge versus absence of knowledge as an either/or situation – that there cannot be degrees of knowledge. It is felt that partial levels of knowledge constitute belief states rather than knowledge states, and belief is in scalar opposition with knowledge.

b. The US government **must** be aware of the La Palma threat.

http://education.guardian.co.uk/higher/research/story/0,,1279816,00.html (10/8/2004)

both with an epistemic reading, convey to the hearer or reader that the speaker does not know enough about the factual status of the proposition, and wishes to avoid making a committed unmodalised assertion about it. This is largely an effect of the Aktionsart of the complement verb, (9a-b) both occurring with stative complements. Non-stative verbs cannot refer to events actualising at reference time, and can only relate to times earlier or later than reference time, while stative verbs can refer to situations already in existence over reference time. If the presence of a stative verb can refer to a situation in existence at reference time, then it means that the situation is in a state of actualisation, and would normally be known to the speaker or at reference time (as in, e.g., *The US government is aware of the La Palma threat*). Thus, if a modal verb is found to co-occur with a stative verb complement, it takes on a 'marked' interpretation, signalling to the interlocutor that the actualisation of the state is instead not known at reference time, and therefore expresses a degree of uncertainty.

Epistemic modality, though, covers both necessary truth and possible truth. Although it could be argued that the definitional modality of necessary truth (as opposed to the hypothetical nature of possible truth discussed by Givón (1989: 129), leaves open the possibility of the existence of partial knowledge fields, in the case of the deductive inferences obtained in this way (for example, from epistemic modals such as *must*), the knowledge available to the speaker is understood to be still incomplete and therefore must be captured with the 'not-known' operator (not-completely-known therefore not-known). The same argument has been put forward by McDowell (1991: 324), who describes epistemic modality as 'quasi-assertion'; i.e, that in which the speaker does not know that *p*, but only infers, assumes or deduces that *p*. Epistemic modalities, though, express degrees of uncertainty; just how much uncertainty is present depends very much on context. It is beyond the scope of the present study, though, to explore the various levels.[4]

It might seem then, that (8a) essentially contradicts the function of modality, which is to express non-factual meanings: the reason that it has been included, though, is because the truth of the complement does not assert to the actualisation of *p* in such cases, since the truth of the complement pervades over an indefinite

4. The distinctions outlined in (8) do not refer to intermediate stages such as those of 'wide-scope' deontic modality as discussed in Chapter 5. Such cases are indeterminate between (8b) and (8c); it remains for further studies to develop methods of description that may account for these and similar types.

time period and the actualisation of *p* at any specific time period is not ascertained. For this reason, such modalities are unique in revealing the possibility that truth ≠ actuality, and that while truth can be timeless, actualisation must be tied to a reference time; that is at the basis of the equivalence between perfectivity and factivity (see Chapter 1 for discussion).

Because of such discrepancies, the time reference of the modal operator must be taken into consideration; thus, it is necessary to include such features in the notation:

(10) a. Dynamic (participant-internal) modality: $K[p(t_n)]$
b. Deontic (participant-external) modality: $K[\sim p(t_0)]$
c. Epistemic modality: $\sim K[p(t_0)]$

The subscript zero refers to the deictic reference time of the speaker, i.e. utterance time.[5] For reference time other than speaker's utterance time, a subscript *r* could be used instead, e.g. for (10b): $K[\sim p(t_r)]$, (10c): $\sim K[p(t_r)]$. The time indicator (*t*) relates the time of the event referred to in the proposition, *p*, with the reference time, e.g. utterance-time, and shows that in (10a), the knowledge of the realisation of *p* held at all times (marked by subscript *n*), including the utterance-time, but no specific instance of it is referred to, and in (10b) and (10c) the knowledge or absence of knowledge of the realisation of *p* or ~*p*, as the case may be, held at utterance time, time zero; hence, the paraphrase for (10a) is '*p* is known to be the case at any time'; for (10b): 'it is known that *p* is not the case at speaker time'; and (10c) it is: 'it is not known if *p* is the case at speaker time'.

The same notation can be used to describe non-modal propositions; e.g.:

(10) d. $K[p < t_0]$

that is, that the presupposition regarding the actualisation of the complement was based on facts that *p* obtained earlier than utterance-time ((10d) could thus represent an assertion made about the past: 'it is known that *p* held before speaker time', e.g. it is perfective). Other representations are in the form of performatives, in which the actualisation of the complement takes place simultaneously with the utterance ($K[p(t_0)]$). Similar representations can be made in the case of stative assertions, which endure across the period of utterance time, and also including progressives, but not generics and habituals, as, like dynamic modals, they do not co-occur necessarily simultaneously with utterance time; it is only the speaker's

5. Lyons (1977: 811) uses a similar notation to refer to the zero-point of the deictic system as related to the reference point of the speaker. However, I have used a different means of marking times prior to this point.

knowledge of their omnitemporal occurrence that coincides with utterance time, not the actualisation of the propositions they encode.

It should be remembered that the knowledge operator is a pragmatic device, and does not refer to the function of the modal verb, but rather, represents the speaker's presupposed knowledge premise backing the use of a modal verb in the first place, e.g. the use of a deontic modal suggests to the hearer that the speaker knows that *p* has not yet actualised,[6] and the use of an epistemic modal, in for example, *That must be Tom*, suggests to the hearer that the speaker does not know for certain that it is Tom, and is at most, without violating Grice's (1975) Quality maxim, able only to deduce this from the circumstances. Thus, it is the operation of the upper-limiting Quantity 1 maxim of Grice (1975), combined with exploitation of the maxim of Quality 2 ('do not say that for which you lack adequate evidence), that together create the implicature that if the speaker has not used an unmodalised assertion to express *p*, then it is obvious that she does not *know* that *p*. The operator in one way, then, accounts for 'hedging', interactive functions of modality in a principled way. It is clear, though, that all modality assumes a common element of knowledge brought to bear on the propositional content of a modalised utterance, and it is not simply epistemic modality which takes recourse to knowledge as a factor determining the modal semantics. If there is to be a unifying method of describing both epistemic and non-epistemic modality, then it must involve the interplay of a knowledge operator, since the function of a modal is justified on such a basis.

6.1.3.1 *Hypothetical modality*

It is not only non-factual modality, as described above, which may be discussed in terms of the degree of knowledge accorded to the modal utterance by the hearer. Counterfactual and hypothetical modality ranges in degrees of modal strength also, according to similar factors of assumed knowledge attributed to the speaker; a working definition of a counterfactual utterance, for example, is one in which the counterfactuality is an inference based on the contextual assessment of the speaker's knowledge of facts to the contrary of the counterfactual or hypothetical utterance (see Chapter 4). As noted earlier, e.g. in conditional constructions such as *If it had rained, the picnic would have been cancelled,* the hearer's evaluations of the counterfactuality are based on the presence of contextual knowledge that it had not rained and the picnic was not cancelled. In the absence of such extra-world knowledge, the hearer creates the inference out of the presence of grammatical and morphological clues that contribute to the information density of the

6. Larreya (2004) also makes a distinction between speaker and hearer knowledge in his definition of modalisation.

utterance, e.g. marking for past tense, or perfect aspect, the lexical aspect of the verbs, negation, first person subjects, and other elements which may be specific to the utterance. In both hypothetical and non-factual modality, then, the underlying operators are implied on the assessment of the speaker's knowledge-base. The difference is that the description of hypothetical modality (as in conditional constructions) is indeterminate between (10b) and (10c), with the greater tendency towards (10b) increasing with greater information density and higher levels of counterfactuality. This is why morphological and contextual clues are so important in defining hypothetical or counterfactual modality. Further research in this area may find more precise means of expressing distinctions between non-factual and hypothetical/counterfactual modal types.

6.2 Descriptions of *will* in present-day English

The objective in using the classification described above is to illustrate that a single semantic factor, presupposed knowledge, relates the different types of non-factual modality. It is also an attempt to clarify by means of a simple notational form the way in which non-epistemic and epistemic modality can be systematically linked without unwieldy notional definitions of modal functions which may be specific to one type but not to others. For example, many definitions discuss such diverse concepts as obligation, ability, internal necessity, and volition, and it is difficult to find any semantic relation between them, except that the expression of such concepts will always carry the presupposition that the event they predicate has not yet taken place at the moment of utterance. It will be shown that such a broad level of categorisation is also necessary in describing the semantics and grammatical functions of *will*.

The modal *will* has been variously associated with 'future tense' in English, and this association has, in many cases, presented problems to many accounts in which it would not be considered wise to attribute a future tense to English anyway. Huddleston (1995) argues very concisely, and perhaps unnecessarily, against the use of the modal to express tense, on the grounds that it expresses meanings which bear no reference to future time at all, e.g., in the classic 'postman' example of epistemic *will*:[7]

(11) That **will** be the postman.

7. Renaat Declerck (p.c.) finds that in many languages, epistemic modality appears only after future tense has grammaticalised from the same source (I will not be taking a stance on the tense functions or otherwise of *will* in the present study).

Coates (1983: 178) suggests that similar examples are deemed predictive on account of the fact that certain events on similar occasions in the past (such as the sound of the postman's whistle, in (11)) have led the speaker to the prediction, in the same way that scientific predictions are based on a series of repeated events of the same kind. In suggesting this, she distinguishes epistemic *will* from epistemic *must* for which the speaker's conclusion is based on evidence specific to the moment of speaking; i.e. epistemic *will* is associated with inductive inferencing, while epistemic *must* is associated with deductive inferencing. However, it is not certain that deductive inferences are not used in the same way in (11) – the modal is quite possibly interchangeable with deductive *must*. Dancygier (1998: 45) suggests that the reference to the present in such examples is derived only from the use of the deictic pronoun *that*, and that the modal verb should not be considered as expressing a present predictive sense. However, one of the main reasons Huddleston outlines for not describing *will* as a tense marker is that it is often very difficult to determine where modal meanings bleach into temporal ones; this point also echoes the sentiments expressed long ago by Lyons (1977: 820) who regarded tense as a kind of modality in itself, suggesting that deictic reference combined with factuality levels could produce the same meanings as are derived from tense markers across languages. It is well-known that prediction is virtually absent in many environments of *will*, for example, with first person subjects. This is because the speaker, as subject, has the most readily available information concerning the desires and intentions of the subject (Ziegeler 1996), and does not *need* to make predictions, thus rendering predictive statements redundant in such environments. One could suggest then, that temporal meanings, though incipient in other persons, are most prototypically exemplified only with third person subjects.

Example (11) contains a use of the modal which is often described as strong 'epistemic' *will* (see, e.g. Traugott 1989); this is because it refers to an on-going present state which has been concluded and is verifiable in the future, rather than an event which is to take place in the future. Evans (ms) also notes that the use of *will* in such examples is based on the possibility of verification of the prediction rather than the prediction of the proposition itself. In classifying such examples as 'strong' epistemic uses, Traugott is allowing for the possibility, also found across many accounts, that future predictive *will* showed weaker levels of epistemicity prior to the stage at which 'strong' epistemic *will* developed (cf. Bybee, Pagliuca & Perkins 1991; Coates 1983; Fleischman 1982; Givón 1994; Goossens 1982; Heine, Claudi & Hünnemeyer 1991; Palmer 1988 and 1990, and Ziegeler 2000a). Fleischman's (1982) adherence to this possibility is linked to the fact that the speaker entertains a certain amount of conviction over the probability of the predicted event (1982: 20); Coates (1983: 169) claimed that the semantics of *will* covered a range from root meanings of volition to "epistemic meanings of Prediction", and

likewise suggests that 'epistemic' *will* can make a prediction about the present as much as the future:

(12) ... no one can... **will** be able to take in at the moment

(Coates 1983: 177).

She claimed that the meanings associated with *will* include 'willingness', 'intention', 'predictability', and 'prediction', and stated that other root modals besides *will* have future time reference as well. Bybee et al's (1991) claims for the epistemic status of future *will* are based on the assertion of probability that a speaker makes in predicting that a proposition will be true at a time in the future (1991: 25). Goossens (1982: 78–9) attributed an 'epistemic overtone' to a predictive statement, because of the subjective component involved (however, as we have seen, all modals except the dynamic modals are subjective (Palmer 1986), and *will* if dynamic, is not subjective). Ziegeler's (1996; 2000a) preference for the description of predictive *will* as epistemic was not based on a particular characteristic of the meaning of the modal, and it was also found in those studies that certain restrictions on the past form of the modal in particular environments would not be in accord with an epistemic description, at least for hypothetical *will* (constraints relating to the co-occurrence with stative verbs, for example). A revision of the former, less stringent means of categorisation is therefore in order.

Traugott (1989) had reservations regarding the level of epistemicity attached to predictive *will* and her observations suggest that even as late as the early 1900s, examples like (11) could not be considered wholly standardised. It is certainly the case that such examples are infrequent in today's usage.[8] In a random sample of 52 uses with third person subjects taken from a total of 251,215 tokens of *will* in the sampler corpus of the *British National Corpus*, there is no more than one example which could be classified as epistemic and without a future time reference (see Table 6.6a):

(13) a. They **will** be out of date now

(KCL 2252).

(13) may be compared to a general future predictive sense simply by varying the time adverb:

(13) b. They **will** be out of date next week.[9]

8. Trudgill and Hannah (1982: 47) indicate the rarity of epistemic *will* and *would* in US English.

9. Note that the difference between future-predictive uses of *will* and epistemic *will* is not strictly determined on the lexical aspect of the complement verb, as predictive uses have generalised to include states which may hold at a certain time in the future, as well as events; only states which prevail over the time of speaking or reference time may be considered to be epistemic.

The rarity of examples such as (13a) may indicate that the predictive senses of the modal need to be distinguished from the epistemic meanings, and that epistemicity is a relatively new development in the meaning of *will*, not an old meaning which automatically came into existence with the development of predictive meanings. The argument for predictive *will* to be classed as an epistemic modal, though, is questionable. In the first instance, it has been claimed in many accounts that futures do not necessarily evolve only from modal verbs of volition, but also from those with meanings of obligation, necessity, and movement (Bybee 1985: 159; Heine and Kuteva 2002), obligation, for one, being also a deontic sense, but at the same time, that the development of deontic modals into epistemic moods is parallel to the development of future tenses. Bybee and Pagliuca (1985: 65) suggest that future is the epistemic modality of prediction, but if obligation, necessity and movement also contribute to future meanings, then they are also predictive. Palmer (1990: 47) also involves modal meanings with temporal reference, suggesting that deontic modality must always have a proposition referring to the future. On the strength of such statements, it is possible to deduce that since deontic modals refer to future propositions, and future is the epistemic modality of prediction, then deontic modality refers to the epistemic modality of prediction. But this could not be the case.

Frawley's (1992: 425) description of deontic modality as 'goal-centred' and involving the commitment of participants other than the speaker, noted in Chapter 5, would further impose a sense of future time reference on the nature of the proposition. However, it must be remembered that the goal-centering is associated with the proposition, not with the modality, and it is the aspectual nature of the complement of the modal verb which supplies many of the characteristics determining whether it is epistemic or deontic: in the epistemic uses of *will* described in (11–13), the complement verb is a stative one. This does not necessarily mean that every stative verb complement is going to be epistemic, but it does suggest that in most cases an epistemic complement will be stative.

For present purposes, then, and in view of the distinctions illustrated in (8) and (10) above, it is preferable to describe the deontic modality referred to in (8b) and (10b) as future-projecting, as discussed in Chapter 5, since it presupposes that the action referred to in the complement will be carried out at a time later than utterance time, and it makes no distinction between what is imposed by the speaker and what is reported by the speaker. If this is the case, then, predictive futures are, historically, at a level of development parallel to deontic meanings rather than epistemic, and the speaker's knowledge pertains to the predicted event which has not yet taken place in the case of a non-epistemic prediction, but in an epistemic prediction to the possibility that it is an on-going state, about which the speaker has incomplete factual knowledge. The only recent appearance of epistemic uses of

will, according to Traugott (1989), is indicative of the rate of grammaticalisation of this modal, which is still predominantly non-epistemic in most functions.

The same reasoning has been applied to the development of predictive senses by Van der Auwera and Plungian (1998), who demonstrate that future meanings (from desire and other sources) lie outside and prior to the conceptual domain allocated in semantic maps which encompasses deontic and participant-external meanings. However, as will be seen later, some deontic meanings of *will* do appear in the historical data surveyed in the present study, but not until the 14th century (other predictive meanings of *will* are observed in Old English times (Warner (1993: 168), as noted in the introduction to the present chapter. Deontic *will*, though, is indistinguishable from other future-projecting meanings according to the present analysis, as it also predicates an event which has not actualised at the moment of speaking or other reference time. Future and epistemic *will* may therefore be included within the description notated in (10), using the term 'future-projecting', rather than 'deontic':

(14) a. Future-projecting modality: $K[\sim p(t_0)]$ (e.g. 1, 13b)
b. Epistemic modality: $\sim K[p(t_0)]$ (e.g. 9, 13a)

The term 'future-projecting' suggests that the knowledge that *p* does not obtain at the moment of speaking or at other reference times implies that it may obtain later than reference time, and that anything that is not future-projecting implies modality which is grounded in the present (or coincides with reference time). Future-projecting *will* can also include participant-related meanings of Van der Auwera and Plungian (1998), and encompasses some of the agent-oriented and speaker-oriented meanings of Bybee et al (1994).

It would be an oversight to claim that future predictions were not modalised at all; the use of the verb *will* ensures that they are, at least, formally. However, in terms of grammaticalisation, it seems only recently that they have come to adopt epistemic meanings (according to Traugott 1989, as noted above), and the typical predictive meanings are simply future-projecting in the same way as those of any deontic modal. The meanings of *will*, therefore, may be considered as an anomaly with regard to the traditional classifications of modals, but quite in accord with the classifications of modals provided above in terms of a knowledge operator: while it is possible to suggest that the proposition predicated of *will* is not known at the time of speaking/reference time (and could fall into the epistemic category, as in (13a)), it can be said with more certainty that the proposition is known-not-to-have-occurred at speaker time, and only in the case of an epistemic use must the K~ operator be negated (when the proposition cannot be described in such a way, since epistemic judgements are not made on the basis of presuppositions that the proposition is known not to have occurred but rather that it is not known to have

occurred). Given the usual pathways of development shown in grammaticalisation studies, the transition from root meanings to epistemic meanings across modal domains thus allows for the possibility that the degree of factual knowledge associated with the complement proposition by the speaker becomes weaker as the modal meanings strengthen and subjectify. This is what one would expect in any case in a situation in which modality is grammaticalising out of lexical source meanings carrying information relating to real-world (realis) states and properties.

6.2.1 Omnitemporality

The description in (14) has not included reference to *will* at any stage prior to prediction. Most accounts give the source concepts for predictive *will* as volition, or desire, and Palmer's (1986: 102–3) reference to dynamic uses of *will* refers to senses of willingness, which is one volitional sense. Dynamic *can* and dynamic *will* express states inherent in their subjects, and may refer either to a time-stable situation (e.g. (5)), or a time-specific one, e.g. with 'willingness' *will*, the situation is either a time-stable characteristic or a time-specific one depending on the situation (e.g. *John is always willing to help whenever we ask him*, vs. *John was willing to help when I asked him*); the former, time-stable sense expresses a permanent characterising sense. Time-stability is a characteristic of generic sentences, and therefore the two modals possessing such features could be further described as generic modals, or omnitemporal with regard to speaker knowledge. Thus, the desire meanings of *will* must cover a range of concepts allowing for dynamic uses with generic reference, as well as time-specific reference.

The interaction of generic meaning with modality has received little attention in the study of modality. Langacker's (1997: 191) definition of generics as "... expressions that ascribe a general property to all members of a class", and habituals as expressions referring to customary and repeated events has been noted in Chapter 1. In the present study (and as noted earlier), such definitions will be taken to assume that generics refer to multiple participants over which a single event or property may hold, while habituals refer to a single participant to which multiple events may be attributed. Because of the common semantic characteristic of iterativity (over either events or participants), habituals will be considered here to be a subclass of generics. Modal verbs such as *will* can appear in either type; Huddleston (1995) describes both types together as 'propensity *will*', e.g.:

(15) a. They'**ll** go on for hours without speaking to each other

using a specific subject, and expressing habituality, and:

b. Oil **will** float on water

describing the generic characteristics of a non-specific subject. Generic types also often occur in the main clauses of conditional, or quasi-conditional sentences:

c. They **will** continue to grow wherever the ground is slightly above freezing

(*BNC*: ARS 1429)

as shown in (15c) (from the *British National Corpus*), where the tendency expressed as a habitual characteristic is dependent on the presence of a condition in the sub-clause. Other modals besides *will* can be found in generic environments; there is not sufficient scope in the present study to investigate this area in more detail, but some examples provided by Palmer (1986: 11):

(16) a. Lions **can** be dangerous

(Leech 1969: 223)

b. .... the lamellae **may** arise de nuovo from the middle of the cell and migrate to the periphery

(Huddleston 1971: 297–9)

The examples in (16) have been described as existential modality by Palmer, who paraphrases them as equivalent to epistemics, and thus not worthy of special consideration. In many ways they are different from the generic uses of *will* since they refer to situations which are not necessary and law-like, but nevertheless are possible omnitemporal situations rather than necessary ones. However, they do presuppose knowledge of situations that holds at all times including the utterance-time, but with no specific instance of the situation referred to. In this way, they are unlike epistemics as described in the present study, as epistemics denote an absence of knowledge at reference time, and the need to deduce inferential conclusions from eliminable evidence.

(15b) is an example also cited by Dahl (1995: 419) to suggest that future modals might be the historical sources for generic uses. Dahl cites Comrie (1985) who explains that the use of modal forms to express habituality involves inductive inferences made from real world observations which are used to generalise about possible worlds. It is not certain from this whether Comrie's explanation is completely in accord with Dahl's estimations or not, but it has been stated in other accounts, e.g. McDowell (1991: 327), that the domain of timeless truths and physical laws may intersect with the domain of prediction, and such an intersection is discussed as represented linguistically by the modal verb *will* in English. In other languages also appear modal verbs with lexical sources of volition, e.g. Cebuano's 'unreal volitional' which can serve as a habitual marker (Dahl 1995: 419), and is

also used for future time reference. In a given sample of the world's languages (Dahl 1985), the implication represented was for predictive meanings to exist without a necessary tendency for generic functions of the same grammatical forms, but not the reverse. Thus, on the basis of such data, generic uses were considered semantically to be an extension of predictive uses.

The opposite possibility, for generic meanings to serve as an evidential basis for the establishment of predictive meanings, does not seem to accord with the typological data so far. However, it may be worth considering the reasons for a possible reversal of the claims for the relation between generics and futurity, since Dahl's data is not backed up with any historical information. McDowell (1991) notes an 'intersection' of the two conceptual domains, without specifying which may be conceptually basic and which are derived. Evans (ms) discusses the generic senses of the modal *will* as expectation, in the sense that while in the predictive sense of the modal, it is the future verification of the proposition which is being referred to, in the expectation sense it is the anticipation of the event's future occurrence which is being expressed; e.g. *Boys will be boys*. This anticipation allows for a time reference which overlaps with the nomic present, but most importantly, Evans maintains that the expectation use derives directly from the source meanings of the modal as a verb of desire or volition, rather than from the predictive, future meanings. Although Evans does not supply any examples to illustrate his claims, certain present-day uses may help to demonstrate that the link with volitional sources has not yet been severed completely. For example, Horn (1972: 131), after Boyd and Thorne (1969), referred to the acceptability of the modal generic statement:

(17) Welshmen can be tall

as attributable to the paraphrase 'some Welshmen are tall'; i.e. the frequency distribution of the property of being tall is spatial, i.e. it is a property applying to multiple participants at no specific time reference, rather than temporal, in which an event may apply to a specific participant or set of participants over multiple time references (as with habituals). As we have seen above, in (16), the use of *can* in generic sentences presumes a possible omnitemporal situation. However, the same paraphrase cannot be applied when *will* is substituted for *can*:

(18) ?? Welshmen will be tall

since *will* presumes that the situation will hold in all instances (of the set of Welshmen); it is law-like, and is more expressive of necessary generic modality. Since no such, law-like situation can exist, and in the absence of any other modal interpretation, the only other possible reading involves resorting to a volitional construal expressing a characteristic habit of Welshmen (as in *Boys will be boys*). But this would

be disallowed since under most interpretations; (18) would contain traces of lexical retention relating to the source meanings of the modal as a verb of volition (and thus supporting Evans' claims for the direct derivation of generic *will* from volitional sources); it is not possible to have volitional control over being tall. In the next section, the possibility of the sources for generic *will* will be discussed further.

There may be other reasons for the oddity of (18). Bybee (1988) maintains that omnitemporal *will* cannot be used to express general truths involving permanent states and requires an environment in which the timeless truth refers to characteristic behaviour or a change of state (e.g. 1988: 373):

(19) *Elephants will have long trunks

(20) The arctic hare will turn white in winter.

(21) Water will boil at 100 degrees centigrade.

The infelicity of (19) is due to the fact that it expresses neither characteristic behaviour nor a change of state; however, it is possible to consider that such uses are, again, affected by the retention of the lexical semantics of volition or desire (intention) relating to earlier stages of the development of the modal. Characteristic behaviour requires volitional control, and we know that elephants have no volitional control over the length of their trunks, so the expression is anomalous, as the use of *will* conflicts with subject selection restrictions relating to its earlier uses as a verb expressing volition. If (19) were changed to *Elephants will often have long trunks*, the inference of a necessary, law-like state is cancelled by the frequency adverb, and there is no need to resort to a volitional construal to make sense of the sentence. Similarly, *Elephants can have long trunks* is acceptable on the grounds that is refers only to a generic possibility (though with a singular subject, *The elephant can have a long trunk*) the plausibility is further reduced, since the definite article presupposes reference to the entire genus of known elephants). However, (20–21) are unacceptable using *can* as it is just the sense of law-like genericity provided by *will* that is required (e.g.??*Water can boil at 100 degrees centigrade* presents the proposition as if it were new information, and not a known law of physics). The same may be said for the arctic hare, since the event of turning white is applicable to all arctic hares, not just some. There is, then, an apparent correlation between generic possibility (or existentiality) and *can*, and generic necessity (or universality) and *will* (see also discussion on generics in 1.1.3).

Bybee (1988: 373) reiterates claims made in Bybee and Pagliuca (1987) that the generic uses illustrated in (20–21) are examples of predictability, and therefore an extension of future prediction uses, supporting her suggestions with data from Dahl (1985) in which, as noted above, such uses cannot be found cross-linguistically to occur without the simultaneous occurrence of future predictive uses. How-

ever, if they were an extension of stages of neutral future prediction, there would be no reason to place selection restrictions on their subjects as illustrated above and in (18), since future uses of *will* are grammaticalised, and in other environments co-occur quite happily with verbs expressing permanent states, e.g. *When these baby elephants mature, they will have long trunks*. If such functions are grammaticalised out of future uses historically, then they should be expected to have at least the same grammatical distribution as the previous stages of grammaticalisation.

6.2.1.1 *Argument restrictions*

Bybee (1988: 373) does, however, note the need for a non-specific subject in the examples she provides, suggesting that a specific subject can only have a habitual interpretation. This is true of all generics, since non-specific subjects are defining of generic sentence types, and non-specific objects with specific subjects can also produce a habitual interpretation (without the need for time adverbs, e.g. *Mike washes cars*). The generic type is restricted to third person subjects (though not necessarily the habitual), and may co-occur with definite or indefinite articles ((20) is potentially three-ways ambiguous between a non-specific, generic reading, a habitual reading referring to a specific Arctic hare, and a prediction about the future of a specific Arctic hare in the speaker's world of reference). The domain of specificity has been described by Von Heusinger (2002: 247) as referring to arguments for which (i) interpretation does not depend on the interpretation of the matrix predicate or semantic operators such as modal verbs, (ii) the specific referent is functionally linked to either the speaker, or to another participant such as subject or object, and (iii) the lexical item *a certain* can be used to test the specificity of an indefinite NP. Generally, however, a specific referent is one that is known to the speaker, and has reference (which is why Givón 1978 used the term 'referential', rather than specific, to describe such noun phrases). In the absence of all such conditions, then, it may be assumed that the NP is non-specific, regardless of the nature of its determiner. It should be remembered that definiteness and specificity are two different domains, definiteness being more grammaticalised than specificity, and definiteness is related to discourse mention while specificity is relevant to referentiality in the real world. Thus, the specificity status of a NP is not always expressed, as indefinite determiners can indicate both specific and non-specific entities, e.g. *Sheila wants to marry a Swede*, where the referentiality of the object, *a Swede*, is known only to the speaker.

In (18), it was suspected that such examples do not support the use of *will* as a generic modal because of the possible interference of lexical retention associated with earlier stages of volition, which is incompatible with a stative verb over which no control can be exercised. In order to support such claims, it must be demonstrated by what pragmatic means we arrive at generic senses, if the source

meanings of lexical volition are to provide the derivation of generic meanings. Brisard (1997: 283), states that predictive meanings of *will* in his corpus data are typically found to be based on given premises,[10] and that, above all, predictive *will* represents a stage of deductive inferencing similar to that associated with epistemic *must*. Most of all, he is adamant that predictive senses cannot come about simply by metaphorical transfer between different temporal domains; the predictive statements cannot be made unless there is also knowledge that a given state of affairs holds in the world in which the conceptualiser finds himself or herself, and from which the conceptualiser can predict with confidence another state of affairs epistemically dependent on the givenness of an initial set of conditions. The basis for his argument is actual text data, and the linguistic environments in which the modal is most often found provide the evidence for Brisard's claims; however, Brisard's use of the term epistemic to refer to a given set of conditions is perhaps a little misleading, given our earlier discussion on the nature of epistemic *will*. In the case of *will* and elsewhere, it may be seen that the given set of conditions is an evidential base rather than an epistemic one, and that this distinction must be carefully teased out. The following section will discuss why this is so.

6.3 Historical accounts

It has been observed that much of the historical research that has been undertaken on the grammaticalisation of *will* has relied mainly on a scant supply of empirical data coupled with a large amount of assumption-building (though the assumptions that have been built upon the scant empirical data have not always been without justification). Amongst the earliest studies was Goossens (1982), who also concedes that the predictive meanings of *will* are based on the component of meaning which is clearly subjective. Goossens has a conservative opinion about the use of the Old English predecessor to *will*, *willan*, to express epistemic meanings, the primary meanings expressing volition and intention. His reservations are upheld mainly by the fact that the modals (and other forms of expressing futurity in Old English) were not unambiguously predictive, but that predictive senses were usually supplemented by the context. However, he maintains that *willan* and *sculan* (present-day *shall*), are "... occasionally used to signal epistemically-coloured predictions" (p. 84).

10. Brisard's corpus consisted of representative samples from the Brown Corpus and the Lancaster-Oslo-Bergen Corpus, and included cliticised variants such as *'ll*. It was complied at the University of Antwerp by Ludo Lejeune.

Aijmer (1985) also agrees that the early meanings of *willan* in Old English were mainly volitional, though she adds that the notion of a physical craving towards a certain goal is the meaning which is uppermost, and is found most often when the modal has a nominal object (Aijmer 1985: 12):

(22) Tostenc **ðiode ða ȝefeht willað**
'Destroy the people who want fight'

Vesp. Ps. 67.31 (fr. Visser 1969: 1677)

Aijmer's main thesis is that the modal has a basic volitional meaning, but that in the case of a third person, inanimate subject, the shift to predictive meanings can take place, as the assertion of the intentions of a third person can be interpreted as a prediction of their future actualisation. (It should be noted also that generic uses can only occur with third person subjects.) She further maintains that when there is a human subject, the volitional senses remain, though future can be implied. She considered that volitional senses are prototypical, and the future and epistemic meanings are extensions of the prototype. Omnitemporal meanings such as habit, disposition, and capacity are seen by Aijmer as closer to the volitional prototype than to the future meanings (1985: 19).

Bybee and Pagliuca (1987) consider the adherence of volitional meanings in what are generally considered to be future meanings of modals such as *will* to be examples of lexical retention (see Chapter 2; see also Hopper (1991), on 'persistence'), and it is retention that explains why different forms of expressing the future have different shades of meaning. Bybee and Pagliuca use text examples from *Beowulf* to illustrate their claims, suggesting that in conditional clauses, *will* often had a sense of willingness (1985: 13):

(23) gif he us geunnan **wile** þæt we hine swa godne gretan moton
'If he will grant that we may greet him who is so gracious'

(*Beowulf*, l. 346)

Their data do not illustrate examples of 'pure' future until Middle English, in which, they suggest, inanimate subjects may be found (as in *Sir Gawain*) and they include discussion on the category of future to express nomic, general truths, or habituality (generic uses), discussing them as predictions which are not related to future time. Moreover, they suggest that such predictions are based on past experiences, and apply to conditions holding at any time, including one example cited from Coates (1983: 178):

(24) It is a fairly safe bet that one of the guests **will** want to take the empty flask home; they make delightful lamp bases.

Their reference to habituals is no different, and is said to express predictability in the same way as nomic truths, suggesting that it is 'a small step' from prediction about the future to generalised prediction (Bybee and Pagliuca 1985: 120). However, they do not illustrate that small step with any historical data, and do not include any historical examples of early nomic uses of *will*, and thus the claim requires more detailed investigation.

It is not until Traugott (1989) that we have any examples of generic uses observed in historical data. Traugott (1989: 39) makes mention of a single example, which has often been cited in later accounts:

(25) elpendes hyd **wile** drincan wæter
'elephant's hide will absorb water'

Orosius 230.26

and she also shows that examples expressing 'customary action' may be found using *sculan* 'shall' (see 6.5.2). (25) is unusual in Old English, but Traugott has little more to say about it, as it is the only example of this function found in her data. In any case, she emphasises that any likely examples of future uses in Old English were merely relative futures, and did not have the speaker as the deictic point of reference time. Warner (1993: 167) repeats the same example, suggesting that such uses are 'an extension' of earlier meanings of 'to will, intend, wish, be willing', and that they represent a characteristic predisposition of the subject (he does not attempt to explain the extension in semantic or pragmatic terms). Warner's data is much more comprehensive, and includes examples which he claims to involve a pure future meaning, e.g. (1993: 168):

(26) Sumum menn **wile** þincan syllic þis to gehyrenne, forþan þe ylpas ne common næfre on engla lande
'(to) some men (it) will seem wonderful to hear this because elephants (have) never come within England'

AELS ii. 25.564.

The majority of Warner's examples occur either within the scope of a conditional or other subordinate clause, or with indefinite subjects (the semantic subject in (26) is understood as the ellipted indefinite pronoun *it*, since the modal verb is singular in agreement). Some are clearly generic in meaning because of the non-referring, indefinite subject, or otherwise describe characterising features of the subject. Thus, although there are examples of future predictive uses appearing, there are also limitations and constraints on the type of future expressed, and as Traugott (1989: 40) suggested, the primary uses of predictive *will* are either generalisations, inevitable futures, or relative futures (in which the reference point is simply a later

time than another time in the discourse); there do not appear to be any examples in which the reference point is the speaker's deictic centre. What is also interesting is that amongst Warner's examples, there are none in which it could be said that there is an overlap in meaning between intention and prediction, although Hopper and Traugott (2003: 97) illustrate this ambiguity with one example, from *Beowulf*, citing Bybee and Pagliuca's (1987) reference to the same example:

(27) Wen' ic þæt he **wille**, gif he wealdon mot, in þæm guðsele Geotena leode etan unforhte.
'I believe that he will, if he should prevail, devour the people of the Geats without fear in their war-hall'.

Beowulf 442–4.

It may be seen, though, in (27), that the use of *will* falls again within the scope of a conditional, and the prediction is also qualified by a matrix verb of cognition or emotion, reducing the level of commitment that the speaker wishes to attribute to the prediction: the prediction is based upon the fulfilment of a pre-condition, and it will be seen later in the study that many similar examples were found at the same time in other Old English texts. It is clear from such examples that the predictive use of *will* in Old English is at an early stage of development. This will be discussed again in section 6.5.

Bybee, Pagliuca & Perkins (1994: 256) go on to illustrate the pathways of volitional sources which mark future meanings crosslinguistically as following a determined route from: DESIRE > WILLINGNESS > INTENTION > PREDICTION, i.e. from describing the emotions of the subject to expressing the beliefs of the speaker. They suggest that in many of their examples, one and the same form may express both willingness and intention, though, surprisingly, their hypotheses regarding intention as a prior stage to prediction are not supported by most of their reference materials (1994: 256). Little distinction is made between the time-specific meanings of intention and the time-stable meanings of willingness, two different ways of conceiving volitional senses; furthermore, it is not clear how a shift in speech acts from a report of the subject's intentions to a prediction of an event can take place (this shift is not problematic for proponents of the hypothesis of increasing subjectification in the grammaticalisation of modal verbs, as pioneered by Traugott (1989)). However, it will be seen later, and it was shown in Warner's study as well, that uses in protases appeared very early in the development of *will* in Old English, in which they are usually stated as having a 'desire' meaning of some sort, and such uses coexist with the predictive uses described above. Imperatives and conditions, concessions, and complementation are functions shown by Van der Auwera and Plungian (1998) to be arising out of the 'epistemic necessity' mean-

ings of future (illustrated by (11) above). The present study will not be focusing on later functions such as these, but hopes to explore, with careful investigation of the uses of *will* in Old English, the reasons that future meanings appear at all in Old English, and, in particular, why examples such as (25) above occur, when, in Bybee (1988) and Bybee and Pagliuca (1987), such 'predictability' meanings are claimed to occur at a much later stage of development, after the pure future meanings have been well established. From the data obtained in the historical accounts so far, it would not seem to be the case that future meanings of *will* were well established at the time. The following survey will attempt to investigate whether there are other examples similar to (25) appearing in Old English, and whether such uses can be linked to the kind of data that Warner (1993) reveals as illustrative of future prediction in Old English.

6.4 The data

The data obtained for the purposes of the present study were extracted from a number of texts in the Old and Middle English portions of the Helsinki Corpus. They were: *Alfred's Boethius* (850–950), *Alfred's Cura Pastoralis* (and *Alfred's Preface to Cura Pastoralis*) (850–950), *Alfred's Orosius* (850–950), *Marvels* (950–1050), *Beowulf* (950–1050),[11] *Aelfric's De Temporibus Anni* (950–1050), *Vices and Virtues* (1150–1250), *Kentish Sermons* (1250–1350), *Dan Michel's Ayenbite of Inwyt* (1250–1350), *A Book of London English*: *Returns* and *Appeals*, *Testaments and Wills* (1384–1425), *An Anthology of Chancery English* (*Petitions*) (1350–1420), Chaucer's *A Treatise of the Astrolabe* (1350–1420), *A Late Middle English Treatise on Horses* (1350–1420), and *A Latin Technical Phlebotomy* (1350–1420). The forms searched were: *wil- wyl- uil- vil- wul- ull- wol- woul- uol- vol- wool- whowl- ool*, these being all the possible stems of the verb forms listed in the *OED Online* as occurring with the subject types required in the study. The Helsinki texts were selected on the basis of the likelihood of future forms appearing; for example, narrative and fiction text types were avoided, as they would have contained mainly past time reference,[12] and particular attention was given to avoid text types with multiple repetitions of the same clause types (e.g. *Alfred's Introduction to Laws* contains large numbers of repeated conditional constructions, which would then have biased the data).

11. There are various opinions as to the date of this text.

12. *Beowulf* was the only exception – it was used because of the frequent reference to it in other accounts of the development of *will* in Old English.

The data were also restricted to occurrences with third person subjects, since, as Aijmer (1985) and others have suggested, these are the environments most likely to support a transition to future predictive meanings of *will*, and with first person (and to some extent, second person) subjects, senses of desire or volition would predominate. The overall aims of the survey were to investigate under what particular linguistic conditions the shift to predictive meanings of *will* first took place – this would not eliminate cases in which the meanings were ambiguous between volition and prediction. However, it would help to determine in what types of environments this ambiguity occurred. In fact, it is in such cases that one would most likely expect to observe the transition occurring. No main verb examples with transitive objects or *that*-noun clause objects were included, as such examples would unequivocally represent desire or volition meanings. For the same reason, no negatives were investigated, due to the likely interference of the retention of volitional meanings also (see Ziegeler (1996) – non-negative volitional uses with infinitive complements *were* included though).

Because of the limitations imposed on the data, in some cases, the number of tokens obtained from some texts was very few. However, the number obtained was sufficient overall to be able to observe distinct trends emerging. The data were sub-categorised according to whether or not the modal co-occurred with a specific/referential or a non-specific/non-referential subject or object, and whether or not it occurred in the scope of a conditional. Conditionals, in the present study, included a wider range than those syntactically defined by the presence of an *if*-protasis; they are defined in the same way as Brisard (1997: 278), i.e., semantically, as including subordinate temporal *when*-clauses, concessive *although*-clauses, and defining (restrictive) relative clauses, since such clauses also impose a condition-like semantic premise on the fulfilment of the future prediction. By the term 'scope of conditional', is meant that the occurrence of *will* is found in either the subordinate clause or the main clause of such environments. The following tables will illustrate the tendencies found.

6.4.1 Results

Table 6.1 Categorisation of third-person subject forms of *will* in the selected Old English texts, according to environment and subject type
N = 55

Volitional uses: 12 (21.8%)		**Other uses: 43 (78.1%)**	
Non-spec. subject/obj.	Scope of conditional	Non-spec. subject/obj.	Scope of conditional
6/12 (50%)	12/12 (100%)	27/43 (61.3%)	28/43 (65.1%)

Table 6.2 Categorisation of third-person subject forms of *will* in the selected Middle English texts, according to environment and subject type

N = 34

Volitional uses: 2 (5.8%)		**Other uses: 32 (94.1%)**	
Non-spec. subject/obj.	Scope of conditional	Non-spec. subject/obj.	Scope of conditional
1	2	11/32 (34.3%)	12/32 (37.5%)

The data were then divided according to function, and two major categories were found besides volitional functions: these have been labelled generic (including habituals), and future. The classifications were made on the basis of environmental factors such as the presence or absence of non-specific or non-referential arguments (non-spec. subject/obj.), which would usually produce a generic reading.[13] All other subject types would result in a predictive reading (future). In some cases it was difficult to determine whether a generic reading or a volitional/future reading was intended: such cases have been sub-categorised as overlap cases (e.g. (31)).

Table 6.3 Sub-categorisation of third-person subject forms of *will* in the selected Old English texts, according to function and environmental factors. (Percentages for non-specific subjects and scope of conditionals are sub-proportions of the totals in the function category; scores below 5 are not shown as percentages)

N = 55

FUNCTION	**Volition**	**Vol./Generic**	**Generic**	**Gen./Future**	**Future**	**Other**
	12 (21.8%)	10 (18.1%)	18 (32.7%)	5 (9%)	9 (16.3%)	1
ENVIRONMENT						
Non-spec. subj./object	6/12 (50%)	10/10 (100%)	13/18 (72.2%)	2/5	2/9	0
Scope of conditional	12/12 (100%)	7/10 (70%)	10/18 (55.5%)	1/5	9/9 (100%)	1/1

13. Two Old English future examples are listed as having non-specific subjects; these have a pleonastic pronoun, *it*, as the subject. The Middle English future example with a non-specific subject refers to a hypothetical subject.

Table 6.4 Sub-categorisation of third-person subject forms of *will* in the selected Middle English texts, according to function and environmental factors. (Percentages for non-specific subjects and scope of conditionals are proportions of the totals in function category; scores below 5 are not shown as percentages)
N = 34

FUNCTION	Volition	Vol./Generic	Generic	Gen./Future	Future	Other
	2	2	11 (32.3%)	2	13 (38.2%)	4
ENVIRONMENT						
Non-spec. subj./object	1/2	2/2	8/11 (72.7%)	0	1/13	0
Scope of conditional	2/2	2/2	5/11 (45.4%)	0	4/13 (30.7%)	1/4

6.4.2 Examples

6.4.2.1 *Old English:*

(28) *Volition*

Gif he ðonne ðæt wif **wille** forsacan, ðonne hræce hio him on ðæt nebb foran,
'If he then wishes to refuse that wife, then let her spit in his face'

(850–950) *Alfred's Cura Pastoralis* (Ed. Sweet). R 5.43.15

(28) illustrates an example occurring within the scope of a conditional and containing a non-specific subject. The subject is a hypothetical one, and the context is one in which a number of laws are being decreed. The gloss is slightly adapted from Giles (1969). A similar example appears in the same text, in which the meaning of volition could be ambiguously understood as generic, having a non-specific subject. It occurs in a defining relative clause and is thus treated as in the scope of a conditional:

(29) *Volition/generic*

Sua is cynn ðæt sio halige gesomnung tæle ælces ðara god ðe hit him anum **wile** to gode habban, & nyle oðera mid helpan.

'In the same way it is proper for the holy assembly to blame the advantages of those who will appropriate them to themselves alone, and will not help others with them.'

(850–950) *Alfred's Cura Pastoralis*. (Ed. Sweet). R 5.45.5

The translation by Giles of the first use of the modal is 'wish to', while the negative modal *nyle* seems to indicate a generic sense expressing characteristic behaviour of the subject, with an overlay of volition, since it is a negative. It might seem more appropriate to assign a similar interpretation to the first use of *will*.

(30) *Generic*

Hu ne meaht þu gesion þæt ælc wyrt & ælc wudu **wile** weaxan on þæm lande selest þe him betst gerist & him gecynde bið & gewunlic...?
'Can you not see that each plant and each tree will grow best on the land which suits it best, and is natural and habitual to it...?'

(850–950). *Alfred's Boethius*. (Ed. Sedgefield). R 34.91.13.

The generic use in (30) is due to the characteristic behaviour of the subject, again non-specific, but also, it is noted, inanimate. The use of the modal in this example will be further discussed below.

(31) *Generic/future*

Ic wat þæt ælc þara þe þone cræft ne can **wile** þæs wundrian forhwy hi swa don
'I know that every person who is unacquainted with the art will wonder at it, why they do so'

(850–950). *Alfred's Boethius*. (Ed. Sedgefield). R 39.132.9.

The categorisation of *will* in (31) as indeterminate between generic and future is due to the presence of a non-specific subject, lending a sense of timelessness, but the fact that the modal occurs in the complement of a matrix verb of cognition also gives rise to a time reference which is relative to and later than the time of the main clause verb (*wundrian* is non-stative, in the sense that the subject has control over the act of wondering). It may appear curious that (31) should be classed as intermediate between a generic function and a future function, since the environment is the same in both examples (30–31), the modal occurring in the complement of a verb of perception or cognition, and having a non-specific subject in both cases.

The difference, it would seem, is due to features of the context: in (31) there is an implied condition in the surrounding context, suggesting that the cause for the wonder (the doctors' craft in giving medicine) needs to be present in the context for the subject to wonder at it (it is implied as a hypothetical condition). This is not the case with (30).

(32) *Future*

> Ic minne can glædne Hroþulf, þæt he þa geogoðe **wile** arum healdan, gyf þu ær þonne he, wine Scildinga, worold oflætest; wene ic þæt he mid gode gyldan **wille** uncran eaferan, gif he þæt eal gemon
> 'I know my festive Hrothulf, that he will piously maintain the youthful if you earlier than he, o friend of Scyldings, leave the world; I expect that he will repay with good our offspring, if he remembers all that'
>
> (950–1050) *Beowulf.* (Ed. Dobbie). R 1180[14]

The uses of *will* in both cases in (32) are in a similar clause environment to (31); i.e. in the complement of a matrix verb of cognition, and both are in the scope of a conditional as well. The examples have been categorised as future because of the specific subject, and the reference time which in both cases is later than that of the matrix clause (relative future).

6.4.2.2 *Middle English*

The majority of Middle English examples were either generic or relative future in function, though some were indeterminate between the main classes. The only two examples which have been classed as 'volition' with no overlay of generic or future are found in conditional protases, as in (28). The generic uses were sometimes coloured by traces of volition, but if they expressed characteristic or habitual behaviour of the subject, they were classed as simply generic:

(33) *Generic*

> And also it **wil** come of sodayne fast ridynge. when an hors aftur gret traueyle. or aftur gret swetynge stonduþ vnheled. or out of house. or in eny oþer cold stede.
>
> (1350–1420) *A Late Middle English Treatise on Horses.* (Ed. Svinhufvud), p 100.

14. The glosses for *Beowulf* are slightly adapted from translations by Thorpe (1889).

The modal in (33) expresses more a sense of general tendency than characteristic behaviour, as the subject is not animate, but merely an indefinite pronoun. The omnitemporality is supplied by the subordinate clause in the use of *when* to mean 'whenever', and in the non-specific subjects in both clauses.

Most of the future uses, as with the Old English data, expressed a future time relative to another reference point in the text (34b); however, there were one or two examples ambiguous between generic and future (34a):

(34a) *Generic/future*

þet we clepie to him þet ha us helpe. And he hit **wille** do bleþeliche.
'That we call upon him to help us and he will do it happily'.

1250–1350. *Kentish Sermons*.
(Ed. Hall), p. 219.

(34b) *Future*

Besechinge also (to) oure liege lord that he **wole** haue compassion and pyte vp on vs
'Beseeching also to our dear Lord that he will have compassion and pity upon us'

(1384–1425). *A Book of London English. Petitions*
(Ed. Chambers & Daunt). P. 204.

The use in (34a) is considered ambiguous between a permanent state of willingness and predictability of the subject's actions. However, it does not reflect the subject's intentions since these cannot be known in such a situation. It might be argued that a volitional sense is felt in this example; however, the context suggests that the volition pertains to a time-stable situation always predictable in the subject, and hence is classified as generic with future overtones. The subject is specific in (34b), and the time reference is set by the time reference in the matrix clause, indicating that the use of *will* can only be relative future. Unlike (34a), the use of the modal cannot be paraphrased by any generic alternative (e.g. the simple present). Similarly, the subject's present willingness cannot be logically expressed as an alternative ('beseeching also to our dear Lord that he is willing to have compassion...'); the willingness of the subject can only be beseeched as a future possibility: 'that he will be willing to have compassion'.

An interesting finding in the data included that of a possible deontic *will*; this and similar examples have been classed as 'other' in Table 6.3:[15]

(35) *Deontic*

> And also we **wile**, on þe sonday next after þe Feste of seint Michel Archaungel, haue our general assemble þere þe foure wardeins **wile** ordeigne;
> 'And also we will, on the Sunday next before the feast of Saint Michael the Archangel, have our general assembly there that the four wardens will ordain.'
>
> (1384–1425). *A Book of London English. Returns*. (Ed. Chambers & Daunt). P 56

In this example, and in the others found in this text, there is less a sense of prediction than one in which the writer is carrying out a directive in the two uses of the modal, and that the use is instructive, or deontic. The only other use which was not classified along with the other categories was one 'inevitable future' in the Old English section. As it was the only example, it was not considered to have any effect on the results. The examples presented above and other data will now be analysed in the following discussion.

6.5 Discussion

From the data observed so far, it is clear that the types of environments in which *will* occurs in the Old English texts surveyed are quite restrictive. Although the texts do not necessarily qualify as a representative sample, since they were selected on the possibility of there being a greater number of predictive uses of the modal than others such as fiction narratives and historical accounts (which would be likely to contain more reference to the past than to the future), there are distinct trends appearing which deserve discussion. In the first instance, it should be noted that the tables above do not include a category which is intermediate between volitional senses and future functions; only one that is intermediate between generic senses and future senses and volitional and generic functions. The reason for this is that no examples were observed in the data obtained in this survey in which it could be ascertained that the future meanings contained an overlay of volition or any indication of being ambiguous between meanings of volition and meanings of prediction.

15. The deontic sense of *will* does not include examples in which it might have the meaning of 'need', as found for volition verbs in other languages; the sense refers instead to a deontic imposition of the speaker's commands.

Such findings may present a somewhat controversial viewpoint, in the light of previous studies in which examples of predictive uses have been claimed to emerge directly out of volitional meanings such as 'intention', according to Bybee et al (1994). For example, (27), repeated below as (36), has been used by Bybee & Pagliuca (1987), and later cited by Hopper & Traugott (1993[2003]), as an example to illustrate this point, as, in order to make such claims, it is necessary to demonstrate that both meanings can be found co-existing in the same environment, and that there is an overlap between meanings of intention and meanings of future:

(36) Wen' ic þæt he **wille**, gif he wealdon mot, in þæm gu**ð**sele Geotena leode etan unforhte.
'I believe that he will, if he should prevail, devour the people of the Geats without fear in their war-hall'.

Beowulf 442–4.

It is doubtful, however, that such examples provide a water-tight explanation to express such a transition, as if the use of *will* were translated in present-day English as 'intend', it would be seen that since the modal appears in a conditional apodosis; it makes the subject's intentions therefore conditional upon the fulfilment of a premise expressed in the protasis ('I believe that if he should prevail, he intends to devour the people of the Geats...'). The same may be said for (32), which may be glossed as'... that he intends to piously maintain the youthful if you... leave the world earlier than he... '. In other words, the speaker has intimate knowledge that the intentions of the subject are dependent on the future satisfaction of a precondition. Such a situation would be unlikely – it is more likely the case that the subject has intentions at the time of speaking, and this is why the speaker has the ability to make a prediction; the speaker has intimate knowledge of the future actions of the subject, but not his future intentions. It is suggested, therefore, that the meaning of volition attributable to the use of *will* in conditional apodoses in Old English examples is rather 'be likely to'; i.e. there is already a probabilistic inference associated with such environments, and this is associated with the speaker's evaluations of the subject's likely behaviour in the possible situation represented in the protasis, rather than the speaker's evaluations of the subject's future *intentions* under such conditions.

Other pure volitional uses in the Old English sample do not carry any possible inferences of prediction at all. Some of these can be found in conditional protases, as in (28), where a meaning of 'intention' could be derived, but it is unlikely that such environments provided the source context for the development of predictive meanings as they are not continued in today's uses, and any appearance of *will* in conditional protases is either ungrammatical as a predictive modal (Hopper

& Traugott 2003: 3), or remains interpreted as a volitional one (but see discussion in Huddleston 1995). Dancygier (1998: 62) describes the use of *will* in conditional protases as describing a condition which is grounded in the context; in other words, it reiterates something that was mentioned earlier in the discourse. However, such construals are offered on the basis of the fact that the constructions they refer to are anomalous; (28) is a volitional use of the modal in a conditional protasis which would still be volitional in the same environment today.

Similar volitional uses can be found in temporal subordinate clauses, in which the volitional meaning is unlikely to grammaticalise and will remain volitional as in conditional sub-clauses; these cannot be glossed by predictive *will* in present-day English either:

(37) Ymb ða illcan gebedo sanctus Paulus manode, & ðus cwæð: Ne fornime incer noðer oðer ofer will butan geðafunge, ðæm timum ðe he hine **wille** gebiddan, ac geæmtigeað inc to gebedum.
'About the same prayers, Saint Paul admonished, speaking thus: Let neither of you deprive the other against his or her will without consent, when either of you wish to pray, but keep yourselves free for your prayers.' [transl. Giles]

(850–950). *Alfred's Cura Pastoralis*.
(Ed. Sweet). R 51.399.33.

The use of *will* in (37) is also in an environment in which predictive senses are unlikely to grammaticalise, in spite of the possible interpretation of the verb as meaning 'intend'. In other volitional uses, the modal appeared in non-factive subordinate clauses, with a non-specific subject:

(38) Fifte bið seo blis, & mæg don eall þæt he **wile**, & nanes þinges maran ne beþearf þonne he hæfð.
'The fifth is bliss, and that anyone may do whatsoever he will, and need nothing more than he possesses.'

(850–950). *Alfred's Boethius*.
(Ed. Sedgefield). R 33.75.31.

The use of *will* in (38), although possible to gloss with an 'intention' meaning, is similarly unlikely to develop predictive meanings, as it is one exceptional use in today's English in which a volitional reading is still likely with a nominal object (and can be glossed as 'whatever he likes' indicating a time-stable desire meaning).

From these and similar examples, it seems that it was unlikely that there was a clear progression in the use of the modal from meanings of reporting on the intentions of the subject to predicting the future actions of the subject. The only examples in the survey in which an 'intention' meaning could be construed either have

non-specific subjects, or they appear in subordinate clauses in which the meanings of volition or intention remain in today's glosses, suggesting that these were not the environments in which the predictive meaning started to develop. One of the main reasons they did not grammaticalise in sub-clauses is that predictions are not usually associated with subordinate clauses, since subordinate clauses usually contain presuppositions, and predictions are not presuppositions. The predictive *will* of a conditional protasis in present-day English, therefore, occurs if the presupposition is meta-textual and the prediction has already been asserted in the context: *If (as you say) it will rain tomorrow, we will cancel the picnic*. Old English uses of *will* in such environments are simply lexical, and do not express this function.

For the rest of the data, it is clear that the presence of non-specific or non-referential participants is considerable and significant. In the Old English data, 61.3% of the non-volitional types and 50% of volitional types have non-specific subjects, and 34.3% of the Middle English non-volitional types also have non-specific subjects. Of the examples with specific subjects, the reference is often to a deity, such as God or the holy spirit, and will still often take on a characterising or omnitemporal sense:

(39) he cuæð ðæt ðæs Halgan Gæstes lar **wille** fleon leasunga
'He said that the doctrine of the holy spirit will flee falsehood'

(850–950). *Alfred's Cura Pastoralis*.
(Ed. Sweet).R 35.243.14.

Even with a specific subject in (39), the meaning of 'intention' is unlikely, as the subject is inanimate, the object is non-specific and the actions of the Holy Spirit are likely to be repeated on numerous occasions, suggesting a 'characteristic behaviour', or habitual reading. If there are any volitional senses at all, they could be described only as willingness of a time-stable nature, which amounts to a generic characteristic of the subject. Another example, in the same text, describes the typical behaviour of an animal, providing another generic use:

(40) Be ðæm is awriten ðæt se hund **wille** etan ðæt he ær aspaw, & sio sugu hi **wille** sylian on hire sole æfterðæm ðe hio aðwægen bið.
'Therefore it is written that the dog will eat what he formerly vomited, and the sow will wallow in her mire after being washed.'

(850–950). *Alfred's Cura Pastoralis*.
(Ed. Sweet).R 54.419.26.

Reference to the dog and the sow is generic, indicating that such uses were well established by then, and found in more than one text. However, there are no predictive uses found in the data which are in main clauses unless the main clause is

in the scope of a conditional, as a conditional apodosis or other main clause supported by a dependent clause; i.e. the predictive uses are clearly more tentatively predictive than many of today's uses, and require the support of a presupposition, a relative time-point, or other qualification before they are made. The small amount of data seems to indicate that only in *Beowulf* are there clear instances of specific subjects co-occurring with *will*, and the presence of specific noun phrases in the environment enables a stronger prediction to be made. However, even in this text the predictions are qualified by the co-occurrence of conditional clauses, or otherwise appear in the complements of matrix verbs of cognition or emotion, and no deictic futures are found. The absence of examples ambiguous between intention and prediction readings is due also to this fact: intention is a time-specific notion and is related to volitional decision to perform an action in the future. The volitive readings obtained in most of the examples discussed so far express non-time-specific senses of desire which may span an indefinite period, or range over an indefinite number of participants. The meanings of *will* for third person subjects are therefore not so much related to the intention meanings associated with first person subjects expressing a momentary decision, but if they are in the environments in which *will* first acquired predictive meanings, some clarification needs to be provided to explain the way in which the transition to prediction took place. The desire meanings associated with non-specific participants or time references are not those of intention, but instead express a proclivity, a tendency, or an inclination, perhaps best translated in today's usage by verbs such as *like to*; i.e. expressing a time-stable or permanent desire, not a sudden need or urge. This can be shown in the implausibility of combining verbs of intention or want with non-specific subjects in today's English:

(41) a. Dogs will eat bones (≠ 'Dogs intend to eat bones')
b. A dog will eat bones (≠A dog intends to eat bones')

Assuming that the singular referent *a dog* in (41b) is non-specific, the generic senses of desire are more synonymous with meanings such as 'like' or 'is/are likely to' than time-specific desires such as 'intend' ('a dog likes/dogs like to eat bones).

This same proclivity could be found with inanimate or non-human subjects, where perhaps the original source meanings were most weakened to express only an observed tendency in the subject, e.g. in (25), (30) and (40). Rather than reporting on the observed intentions of the subject, the speaker is reporting on observed characteristics as expressed in the subject's frequent behaviour, which in turn reflects the psychological proclivity or inclination for such behaviour to occur. The observations of such tendencies therefore form the probability basis for the projection of predictions regarding the subject's behaviour in the future. This is why examples with predicates referring to permanent states (e.g. (19)) cannot take on

a generic sense: there is no temporal frequency of occurrence relating to the subject's characteristic behaviour; the only frequency is across a generic representation of the subject and is therefore spatially distributed, and that requires a modal of possibility. In this way, the development of predictions about the future is given a stronger evidential basis than that of predictions about the future actions of an individual based on perceived knowledge of his or her intentions (which are less obviously accessible). It is hypothesised, based on the observations of the data so far, that the transition from volitional *will* to predictive *will* was via the frequent use of the modal in association with non-specific or indefinite subjects, and that the meaning of predictive *will* in its earliest uses was largely influenced by modal meanings of a generic nature. The likelihood of the generic as the origin of the predictive senses is increased by the fact that, as McDowell (1991) suggests, there is an intersection with prediction, and the predictive meanings are *already present* in the earlier stage of development: the prediction in (25) that elephant's hide will absorb water applies to the future as much as to the present, since it is a nomic statement, and such statements hold at all times including the future. Langacker (1997: 208–9) notes that the speaker's generalisation made in the utterance of a generic statement is based on real-world examples of the event referred to, and such examples have occurred in the past at certain time points, and will form the evidence for making predictions about future instances of the same kind. There is no requirement, then, to create probabilistic inferences from intention to future-projection, since probability in the present already enables prediction in the future.

This hypothesis does not imply that the environment of time-specific intention in third person subjects was not also instrumental in the development of future meanings in *will*. However, it is simply to say that there were insufficient data to be able to support such a claim in the present study, and of the examples in *Beowulf* so frequently cited as the justification for such claims, there are none that can be described as indisputable semantic hybrids between intention and prediction which would be required to provide such evidence. It could be that both generic and non-generic predicates were parallel routes by which prediction could develop, and that the two separate developments occurred simultaneously depending on whether the subject or object was specific or non-specific, e.g.:

(42) Volition → { + generic predicates } → Prediction
Volition → { + non-generic predicates } → Prediction

This would suggest a polysemous source meaning for *will*, varying in accord with contextual features. However, (42) does not explain the appearance of examples such as (25), which are totally devoid of any intentional meanings whatsoever, nor

does it explain why there is no overlap in the data between intention and prediction in the third person examples provided. It would make more sense, then, if it could be hypothesised that the meanings of strong desire (usually associated with specific subjects) became weakened and generalised with non-specific subjects, and that such environments, which were of a time-stable nature, then went on to provide the ideal context for the reinterpretation of *will* to infer probability relating to a generic, time-stable situation. In this way, prediction about the present for which observable evidence is available would form the logical justification for more secure predictions about the future, rather than the other way round, in which the likelihood of something happening in the future gives reason for it to happen in the present (as suggested for generic *will* by Bybee (1988) and Dahl (1995)). The latter situation is less justifiable. The suggested path to predictive uses of *will*, then, is the following:

(43) VOLITION → PROCLIVITY → PROBABILITY → PREDICTION

The pathway illustrated in (43) can be exemplified by the examples shown, e.g. volition (37), proclivity (30), probability (39) and prediction (32), though there is, as expected, some overlap between the stages, which must be seen as prototype senses around which meanings may cluster rather than discrete and definitive changes over successive time periods. It is considered preferable to use the term volition rather than 'desire', since volition covers a more general range of meanings: desire is appropriate to use with specific subjects, as it usually refers to a time-specific sense; volition may include all the time-specific senses of urge, want, wish, and intention, as well as the weaker, non-time-specific senses of willingness, tendency, and proclivity, the first related to human subjects only. (43) indicates that the volitional senses weaken in their distribution to non-specific subjects or to include non-specific object roles within their scope, and such bleaching or generalisation of meaning is typical of most cases of grammaticalisation. As the desire meanings weaken, the developing modal also spreads to include inanimate subjects incapable of volition, as in (25). The former desire meanings are now sufficiently general in meaning to enable grammaticalisation to mark probability and prediction.

It was noted in 6.4.2.1 that the only difference between a generic meaning as in (30) and a meaning intermediate between generic and future (as in (31), in which there is still a non-specific subject, could be attributed to the fact that there is an implied condition in the surrounding context which restricts the omnitemporality of generic uses to those occurring in the scope of a hypothetical event. It is hypothesised that such environments were the most likely point of entry into purely predictive stages of development, since the use of a hypothetical restricting condition on the omnitemporal function of the modal allows only for a possible future prediction to be made, on the basis that the condition, being hypothetical, must

occur, if at all, in the future. It should also be noted that all of the future uses in the Old English data surveyed occur within the scope of a conditional or equivalent (to include the types listed under 6.4 as semantically conditional). Given the prevalence of such environments as shown in Tables 6.1–6.4, there is compelling evidence to suggest that such factors played a significant role in the emergence of predictive *will*.

6.5.1 The K-operator in the grammaticalisation of *will*

We have already discussed a revised description of present-day modality, based on the presence of a knowledge (K-) operator in the pragmatic understanding of the use of a modal (section 6.1.4). The description of generic uses of *will* was considered to fall within the dynamic category discussed by Palmer (1990), but not its predictive uses, which have more in common with other non-epistemic modals, in a category which has been labelled future-projecting. Epistemic uses of *will* follow at a much later historical stage, and none are found in the historical data. The functions illustrated in the following table may represent the three types outlined so far:

Table 6.5 Functional types represented in uses of *will*, with reference to the degree of knowledge attributable to the speaker at utterance time

Function of will	Knowledge-based description	Notation	Example in text
Generic *will*	Omnitemporal knowledge of *p*, p not actualised at time of speaking	$K[p(t_n)]$	(25)
Future-projecting *will*	Knowledge only that *p* is not actualised at time of speaking	$K[\sim p(t_0)]$	(34)
Epistemic *will*	No knowledge if *p* is actualised or not actualised at time of speaking	$\sim K[p(t_0)]$	(13a)

Note that the time reference indicated in the notation for future-projecting *will* is not necessarily represented as zero, and it may be replaced, as noted earlier by subscript *r* to indicate simply any reference time. The zero reference time indicator places the reference time as only simultaneous with the speaker's time of utterance, which is not the case in all the historical examples shown so far. The subscript *r* reference indicator thus includes speaker-time, but accounts for cases in which the time of *p* is subsequent to a projected reference point in the future or in the past, as in the case of relative futures.

If the earliest, non-volitional meanings of the modal were generic, as hypothesised, and prediction arose out of them, it would seem natural to suppose a shift between the values of the operators. To go from generic *will*, then, to future-projecting (predictive) *will*, means a weakening of the degree of assumed knowledge attributable to the speaker, from omnitemporal knowledge (in generic uses), to knowledge regarding only the reference time (which may be the moment of speaking – future-projecting uses), to the weakening of knowledge at the moment of speaking (epistemic uses), in which mere assumptions can be verified at a time later than the speaker time.[16] To describe the differences in modality in this way further supports the hypothesis, if it is considered that the speaker who utters a future-projecting prediction entertains knowledge pertaining to the moment of speaking, and there must be some evidential source for such knowledge. Evidentiality interacts with modality to supply justification for the use or non-use of a modal qualifier, and the evidence in this case must derive either from speaker knowledge of the subject's intentions (and there is no objective way of telling how this is obtained) or from speaker observations of an event which recurs sufficiently frequently to enable the speaker to make an inductive prediction (generic events). At each stage illustrated, the degree of knowledge that a hearer or addressee can attribute to the speaker becomes less, and the modality used by the speaker increases in strength. Thus, with regard to grammaticalisation processes, the development of modality out of lexical source material is accompanied by a reduction in the perceived amount of knowledge attributable to the speaker: lexical uses of the pre-modal forms are considered to be closer to direct assertions, reporting on existing states of affairs. The grammaticalisation of modality involves a movement away from objective lexical sources of direct evidence towards non-asserted situations expressing the increasing subjectivity of the speaker's assumptions and inferences (Traugott 1989; 1995; Traugott and Dasher 2002).

6.5.2 Other modal verbs

It may be questioned whether the same conditions can apply to all modal verbs, and to answer such questions, a great deal more intensive research would be needed. Some studies have discussed the appearance of generic uses of modal verbs as a stage prior to epistemic uses, e.g. Traugott and Dasher (2002: 128). However, the example given merely expresses deontic necessity applied to a generic subject, and

16. Thus the shift from future-projecting to epistemic, if it is demonstrated to be a diachronic process with epistemic functions occurring later than predictive, is at the same time a shift from temporally-distant events or states to those which are situated in the same temporal frame of reference as the speaker's, but which may or may not be only spatially removed from the speaker's frame of reference.

is not interchangeable with non-modal generics. Goossens (2000) gives examples of the earliest uses of *may* which in Old English had meanings relating to the internal capacity of its subject, clearly generic or generically-oriented in type; the same meanings are attributed to the earliest uses of *must* in Old English by Traugott and Dasher (2002: 122). As noted earlier, Traugott (1989: 39) shows that the earliest appearances of *shall* often expressed meanings of iterativity or customary habit:

(44) ealle þa hwile þe þæt lic bið inne þær **sceal** beon gedrync & plega oð ðone dæg þe hi hine forbærnað
'all the time that that body is inside there shall be drinking and playing until that day that they cremate him'

Orosius 20.24.

In a previous study on the development of the hypothetical modal *could*, it was seen that characterising functions expressing time-stable past habituality and customs formed the evidential justification for the generation of statements of hypothetical prediction about the subject, without going through a stage of time-specific past ability (Ziegeler 2001: 308). Similar evidence is also shown in studies of the semi-modal, *be supposed to*, which, in its earliest uses, appears to be associated with generic, evidential functions expressing belief attributed to a non-specific subject, as shown in Chapter 5.

Although a much more extensive study is necessary to support the case for the generic origins of other modal verbs, it is hypothesised that such generic contexts will form frequent environments for early uses due simply to the fact that they represent an evidential basis for the projection of predictions about the future, which are implicit in the meanings of most modals at their primary stages of development. It has also been frequently noted that there is a close formal and conceptual relationship between generic past (habitual) conditional sentences (past habituals) and counterfactual or hypothetical conditionals in many languages (Lazard (1975); Fleischman (1995); Haiman and Kuteva (2002)), which, it if were proven that the relationship was also an historical one, would provide another instance of an evidential source construction for the generation of predictive inferences. However, this relationship has been refuted for English by Bybee et al (1994: 239).

It must also be remembered that the early generic senses of *will* are not lost in the grammaticalisation of the modals to future-projecting and epistemic uses, as they still co-exist with a variety of other functions in today's usage; the later developments simply represent an expansion to environments in which the modal verbs may be found, particularly to uses in independent main clauses which are unsupported by any qualifying dependent or subordinate clauses (no such uses were found with future functions in the Old English data). In the present-day Eng-

lish data mentioned above as taken from a random sample of 52 tokens from the *British National Corpus*, 22 out of the 52 uses of *will* appeared in independent main clauses, as against only one example in the Old English data (in a generic context), and 7 in the Middle English texts surveyed (4 in a generic context and 3 in a future use). The distribution of the environments is presented below:

Table 6.6a Random sample of 52 tokens of *will* with 3rd person subjects occurring in present-day use, extracted from the *British National Corpus*

FUNCTION	Generics	Futures	Epistemics
	7/52 (13.4%)	44/52 (84.1%)	1/52
Independent clauses	2/52	19/52 (36.5%)	1

Table 6.6b Environment distribution of random token samples of *will* with 3rd person subjects in present-day use, extracted from the *British National Corpus*

	Generics	Futures
ENVIRONMENT		
Non-specific subj./obj.	2/7	17/44 (38.6%)
Scope of conditional	4/7	14/44 (31.8%)

The small amount of data showed no prevarication between the categories of generic and future, as had the historical samples (there were none with volitional traces present). However, the sample was taken from a much larger corpus than the historical data, and can therefore present only a hypothetical comparison of the distribution of uses in present-day English, relative to the historical periods shown above.[17] It is predictable, though, that the significant reduction in the number of generic types relative to predictive futures would most likely be repeated in a corpus matched for size and genre with the historical texts selected.

6.6 Summary

Although the data presented in the above study are limited in many ways by comparison to present-day texts, the available material provides a general idea of the types of environments in which the modal *will* was most likely to appear in Old English and early Middle English. The question of the origins of modality is one

17. The data are presented for comparison only. A more extensive survey of present-day uses of *will* in corpus data appears in Brisard (1997).

which needs much further research if the functions of the modals in present-day use are to be understood with any degree of accuracy, and if we are to understand the cognitive-pragmatic foundations for the development of ways of qualifying the truth of a statement. Many of the historical studies mentioned in the present study have attributed little consideration to the changes surrounding the notions of logical modality, leaving such notions in the hands of philosophers to play with within the restrictions of synchronic representations of modality. However, in dispensing with logical aspects, many diachronic studies are then faced with the dilemma of accounting for classes of modality which seem to be irreducible and have no shared semantic or pragmatic identification. One of the aims of the present chapter has been to illustrate that different stages of modal development can be identified without the need to account for so many variations in their functional or conceptual nature, but instead to invoke a common source domain for future-projecting and epistemic modality which explains the changing role of speaker's knowledge base brought to bear on the modal utterance. Thus, the description offered does not attempt to cover the functions of modality, it merely aims to define the differences between modal types using an apparatus referring to the correlation between speaker-knowledge and time-specificity alone.

The data suggest that the predictive modal *will* has a generic source domain expressing omnitemporal proclivity from which inductive modal inferences of prediction arise, and that the meanings of prediction are at the same level of historical development as some of the deontic and participant-external modal meanings; i.e. they are all future-projecting, and refer to events and actions which are deictically-removed from the time of utterance. The further development of the modal to epistemic uses subjectifies the temporal distance to the moment of speaking, and assumes an increasing restriction on the amount of presupposed knowledge a speaker can hold in uttering a modalised statement. It should be noted that the K-operator, designed for the purpose of simplifying the semantic relation between modal types, is only an evaluation of the speaker's presupposed or 'background' knowledge, not a measure of the actualisation of *p* estimable at the time of reference. Thus, it refers to modality in use, or how much knowledge may be reasonably implicated of the speaker in the utterance of a modal statement.

The evidence from other modal verbs and emerging modal verbs also suggests that there are generic sources for future-projecting modality in more than one domain. The use of the K-operator is to illustrate the decreasing amount of presupposed knowledge that can accompany a modal utterance as it becomes more and more subjectified, thus producing a reverse correlation between speaker-knowledge and modal strength with the concomitant, gradual loss of source meanings. There is, though, still a considerable amount of future research that needs to be carried out in order to test its capacity to summarise differences in modal mean-

ing in ways which are even more fine-grained than are presented here. For the moment, though, it can be seen that there are a number of ways that the categories of aspect and modality can be seen to interact, and that the presence of generic aspect in the sources of modal verbs requires a far more extensive survey than has been accorded to it so far. The discussion in 1.1.3 leads to the conclusion that non-modal, generic aspect is often interchangeable with the generic uses of dynamic verbs such as *can* and *will*. The reference made to generics and habituals by Givón (1994) as 'swing categories' between realis and irrealis modalities is never more clearly manifest in the ways in which future-projecting, non-factual modality may be seen to originate in these environments, and the ambiguities between factivity and non-factivity lend an ideal situation for non-factive inferences to become dominant, leading to future predictive meanings. It is hoped that future research endeavours will provide even more exploration of the interaction between generic aspect and modal meanings, not just in English, but in other languages as well.

CHAPTER 7

Concluding Thoughts

The original aims of the present series of five studies were to explore and investigate a number of problems and questions arising from earlier research on aspect in English and its interface with other verbal categories, such as modality. In assembling the range of studies presented in this book, care has been taken to consider the many ways in which they could help to resolve such issues, and at the same time, extend the boundaries of ideas that have been mentioned in previous works that have not been subject to the intensive diachronic and empirical investigation accorded to them in the present volume. The central themes underlying the studies have, as promised in Chapter One, been largely integrational in their outlook: the integration of lexical and grammatical aspect has been a major factor influencing the development of a number of outcomes, which is often the case in many recent contemporary studies, as noted by Bisang (2004). For example, in Chapter 2, it was found that durative or imperfective lexical aspect was the first environment in which the English Progressive began to emerge, and that punctual or perfective lexical aspectual environments followed as a later development. In Chapter 3, the influence of monoclausal resultative constructional meanings emerging out of early uses of the causative *do* in Old English were seen to gradually slide into biclausal causativity in the environment of Accomplishment verbs, Accomplishment verbs expressing lexically the same meanings that resultative constructions had at earlier times. The integration of present-day intuitions with evidence from diachronic development is illustrated in Chapter 2 also, in which the constraints on the use of the Progressive are seen to coincide with an earlier environment which is now recessive, that of stative verbs in generic situations. The integration of the study of aspect with the study of modality is clearly outlined in Chapters 4, 5, and 6, which contribute to the objectives of understanding modality as a pragmatic development from the source environment of particular aspectual co-occurrence conditions. Both diachronic and synchronic approaches have been taken into consideration in these three chapters, as well as a contrastive control study with data from Mandarin Chinese. The integration of the study of non-verbal categories with the study of aspect is also followed up in Chapter 4, where an adverb is seen to derive aspectual meanings, and in combination with particular complements, modal inferences as well.

The studies have also served to demonstrate, it is hoped, that the explanation for language change and the development of language functions lies in external motivations, as discussed by Heine (1994a; 1997). In none of the studies presented in the book is there an attempt to force a theoretical conclusion; the aims have been simply to present the data as they stand, and derive whatever conclusions from them in terms of the needs of the language user. It may be argued, though, that in some cases (e.g. the emergence of a perfective function for the auxiliary *do*, described in Chapter 3), there was a system-internal need unrelated to the external needs of the users (the function later appears to diminish into redundancy). However, even in such cases, it is the speakers who determine the frequency and preference for some forms to emerge over others that may also have been in currency at the time. The use of Gricean-pragmatic means of resolving problems of semantic continuity in the diachronic studies and also in resolving the problems of description in Chapter 4 underlies much of the discussion. In the diachronic context, this presupposes the influence of grammaticalisation processes, but as seen in Chapter 2, pragmatic processes may also operate outside the domain of grammaticalisation, in reanalysis alone. Chapter 6 questions the attribution of existing grammaticalisation accounts and proposes instead another account based on grammaticalisation processes which aims for a closer scrutiny of the semantic pathways involved.

A central theme, therefore, running through the entire book, is that of maintaining semantic continuity in tracing the pathways of development of particular aspectual categories. The evidence of semantic continuity helps to prove the accuracy of hypothesised diachronic pathways, and it provides the logical basis for hypotheses regarding the development of grammatical categories in any language, regardless of whether or not grammaticalisation processes are involved. In Chapter 2, it is seen in the specialisation of an aspectual category marking specific, time-constrained duration, from a more general category marking both generic duration and specific duration, originally hypothesised to have derived from a time-stable predicate, the agent-noun. In Chapter 3, semantic continuity is maintained in the passage of the auxiliary *do* from a causative-resultative construction to later mark perfectivity. In Chapter 5, the question of semantic continuity affecting the emergence of modal obligation senses from evidential sources is examined in the context of a developing semi-modal form; in Chapter 6, the maintenance of semantic continuity is seen as a justification for proposing an alternative account of the development of future meanings in the modal *will*. Semantic continuity is a propelling force in grammaticalisation changes, regardless of the formal adjustments which may take place at the same time, as it maintains the speakers' needs in conveying the same concepts, or extensions of the concepts expressed in earlier stages of development.

With regard to the specific questions posed in (1), Chapter 1, then, the following answers may therefore be given: (i) The present-day co-occurrence constraints on the use of the English Progressive reflect semantic continuity in the fact that there is evidence that the Progressive emerged from a general imperfective aspectual form, used in Old English, which was later specialised to co-occur with mainly durative (activity) verb types. The later generalisation of the form meant that more punctual, telic and perfective verb types could later be admitted into the paradigm. But the present-day senses of temporality associated with the use of the Progressive can be attributed to more recent developments in the extension of the form to dynamic environments and the loss of time-stable environments found in Old English data. This suggests an absence of the cumulative meaning familiar to grammaticalisation stages (see e.g. Traugott and König 1991),[1] which would permit time-stable, stative environments to remain acceptable alongside new environments at later stages of development. Because of this, it would seem to indicate that the Progressive is not an example of grammaticalisation from Old English times. However, the preference for the predominantly intransitive Activity lexical-aspectual environments of today's usage (see works such as Michaelis (2004) for theoretical evidence) does begin to appear in Old English, as shown in Chapter 2. This also means we may witness the continuation of semantic nuances as associated with lexical verb classes from very early on in the history of the form.

The question whether English ever had a dichotomous perfective-imperfective grammatical aspectual division (Sasse's (2002) Aspect_1) is therefore addressed, as earlier in Chapter 3, where it is suggested that such categories may have been present, though this is not to suggest that perfective-imperfective oppositions will always be co-grammaticalised. It is noted by Dahl (1985), for example, that in such situations, there is not always a clear markedness in the grammatical aspectual opposition that would be expected in other tense, modal and aspectual categories across languages. The presence of a perfective aspect in Old English has been discussed at length, for example, by Abraham and Leiss (ms.) as associated with the use of the telic prefixes referred to by Brinton (1988: 202) and discussed in 2.4.2, and the earliest uses of the predecessor to the English Progressive were certainly representative of a general imperfective category (if generics and habituals can be considered imperfectives), as discussed above. However, it should be recalled that the past tense was in full swing at the time of Old English and there could not have been the motivation for a renewed perfective aspect at the time, bearing in mind Bybee et al's (1994) hypothesis that perfectives crosslinguistically form the

1. See Heine and Kuteva (2005: 89) for an example which might contradict this characteristic.

sources for past tenses in grammaticalisation studies.[2] The Old English prefixes apparently served to mark a lexical class of perfectivity at the time, and were later lost. Thus the imperfective subcategory of the Progressive which continued into Middle English was not matched by a counterpart perfective aspect, unless we are to take into consideration the emergence of periphrastic *do* (the developing perfect aspect, as an anterior, was not considered equivalent to a perfective as it could not be used with future temporal reference, as pointed out by Abraham and Leiss, ms.) However, the Progressive did not represent all the imperfective domains that it seemed to have represented in Old English, and therefore it could only be maintained with reservation, and potentially speculation, that a situation of marking a binary perfective-imperfective distinction could have existed at any one time in the history of English.

The third question of whether aspect can be encoded in non-verbal domains is well illustrated in Chapter 4, in which an adverbial form provides the source for the development of an aspectual category marking proximity. Similar items have been termed with various nomenclature in the literature, such as 'Action narrowly averted' (ANA) by Kuteva (1998), and the anti-resultative (Malchukov 2004), or the 'frustrative' (Everett 1986) which illustrated its functions with great clarity; all such terms refer to crosslinguistic parallels with what are known in English and other languages as approximators, or proximatives. As noted in Chapter 1, it was Heine (1994b) who first proposed that such items should be classed as aspectual. The definitions of aspect in the present volume are that it represents a metaphor of spatial form applied to action and states, in terms of concrete structural descriptions such as boundedness vs. unboundedness, continuity vs. non-continuity, and that it lends shape and form in what our minds perceive as intangible dynamic or inert states, by creating classes of formal dimension with which we may describe verbs sharing common attributes. The perception of aspect is thus created by the recognition of common semantic features shared between different verb types, and we cannot categorise without comparison. In positing a new aspectual category, it is possible then to perceive a new metaphorical shape in terms of dynamic actions or states: according to Heine (1994b), the proximative aspect refers to an action, or a perceived action, which takes place just before the boundary of another action, and therefore relies on the metaphor of spatial proximity applied to nominal entities for its interpretation, though the proximity is temporal. It was discussed in Chapter 4 that such a perception is unavoidably linked to a modal inference when

2. An imperfective aspect, on the other hand, has more functional salience in the past to contrast past tense that does not have perfective meaning, since perfective meanings are the default meanings of past tenses crosslinguistically, as pointed out in Ch.2 (Comrie 1976: 72). The small number of present tense forms of the *be* + *V-ende* periphrasis in the Old English examples discussed in 2.5.1 bear this out.

the approximated entity is a verb form, for the simple reason that it is never ascertained exactly where the point of approximation lies, nor how to refer to the verbal entity without making a prediction. In linguistic terms, it means simply that the temporal boundary by which the approximated point is referenced is not actual, and thus there is a clear overlap in such categories between aspect and modality. This will be discussed further below.

The final question is also linked to the answers to the last: particular aspectual conditions can clearly generate modal meanings, as shown in Chapter 5, where the modal inferences of obligation arise out of an ambiguity in generic environments expressing beliefs about the habitual behaviour of human subjects, or generalised expectations regarding future probability, and in Chapter 6, in which the verbal sources for the development of meanings of future probability in *will* are also generic in nature, having mainly generic or non-specific subjects. The observation by the speaker of a frequently-occurring, or nomic event, provides the evidential basis for the generation of probability inferences about the future, and in such situations, the event referred to cannot co-occur with the moment of speaking. Given that the predicate in generic aspectual situations will always be perfective, or non-stative, the time reference can be inferred as future, aspectually-bounded and therefore taking place after the moment of speaking (this observation is also made by Abraham and Leiss, ms.; Abraham 1998). The probability inferences of prediction, therefore, are there from the start, contained as part and parcel of the generic aspectual meaning, and do not even need to be inferred by the speaker, as they would in the case of an expression of volitional intention in a specific human subject; there is no shift of speech act. Thus, it is shown in both Chapters 5 and 6 that aspect and modality are inextricably interwoven in the meaning of generic sentences. The interaction between aspect and modality is never more clearly observable in such situations, and this as well as the other questions posed in (1), Chapter 1, can all be answered by the studies in the present volume.

The studies in this book have therefore aimed to answer the two main questions posed in Chapter 1, whether English aspect ever sustained a bipartite perfective-imperfective grammatical aspectual distinction and where exactly on the aspect-modality interface is it possible to establish diachronic and synchronic connections. In Chapter 2, the study of the progressive also initially had posed the question how it could be the case that certain types of lexical aspect, or Aktionsart types, could be incompatible with the present-day progressive aspect, when the overall aspectual situation it provides is one of stativising otherwise non-stative verbs. Present-day theories of coercion (e.g. Michaelis 2004) provide interesting ways of capturing the surface situation as it presents itself; however, it requires a more definitive, diachronic overview to perceive an emerging pattern. In the data shown in Chapter 2, it was seen that stative verbs co-occurred quite harmoniously

with a predecessor to the Progressive (though, as is discussed also in Chapter 2, there is still much dispute over the nature of the origins of the Progressive). The picture which is emerging in Old English is of a general imperfective aspect, which later specialises to co-occur mainly with verbs of the Activity class, and then expands its paradigm around the time of Early Modern English to include verbs which would be expected to co-occur less harmoniously in the environment. The shifting patterns which are shown are hypothesised to represent a Haspelmath (1994) Noun-Verb continuum reanalysis, if we are to take into consideration the presence of agent-nominals in and before Old English times. The increasing dynamicity of the progressive in present-day usage, evidenced by its expansion to co-occurrence with perfective lexical aspectual classes of verbs, enhances the possibility that the earlier attributive participle, now considered a main verb, may be increasing its verb-like qualities alongside the weakening *be*-auxiliary which would have held former main-verb status if the complement of the earliest subjects had been nominal or adjectival. Thus, the semantic weight of the Progressive periphrasis may be shifting rightwards syntagmatically. It is worth further investigation to see if in other periphrastic verbal complexes there is a measurable increase in lexical dynamicity and verbal status of the participial main verb over time as the auxiliary diminishes in semantic significance. Affixation and cliticisation of the auxiliary would certainly bear this out; however, most grammaticalisation accounts have usually focused on what happens to the auxiliary, not the main verb. The present account therefore leaves open the question of grammaticalisation as a stage in the development of the Progressive; there appears to be justification to suggest the existence of a general imperfective aspect in Old English and early Middle English, more closely associated with the lexical aspect of the verbs with which it co-occurred, which later narrowed its functions to be less dominated by lexical aspect, in the development of the Progressive to include lexically-perfective verb types. However, the gradual processes of change are illustrated across a number of different dimensions.

Chapter 3 offers a hypothesis for the presence of a perfective aspect in the history of English, as earlier suggested by Denison (1985) on the basis of evidence of frequent co-occurrence of the auxiliary *do* with Accomplishment verb types. It is proposed that such patterns of co-occurrence are most likely linked to the earlier origins of *do* as a causative-resultative verb in Old English (since resultative constructions (in the Goldberg (1995) sense) share with lexical Accomplishment verbs the semantic feature of telicity), and its later reanalysis in particular biclausal environments in which the medial noun phrase refers to the semantic role of a Patient. Such environments include mainly labile verbs (causative-inchoative according to Croft (1990)), or those in which the complement of the causative verb is passive (so enabling a passive subject of the lower clause). Around the time that

periphrastic *do* was beginning to emerge, the latter environments, with passive infinitives, were not always distinguishable from active infinitives in early Middle English, according to Fischer (1991). The later reanalysis, hypothesised to be due to a hyperanalysis (Croft 2000), dispensed with the need for a medial noun phrase in such environments, and explains the way in which the causativity which first appeared in Old English resultatives with adjectival complements could yield gradually to a discourse-perfective function. The loss of the auxiliary could be attributed to the lexicalisation of residual perfective senses into the semantics of the main verb. What appears evident in such a pattern of development is not so much the creation of a new function in the system, but the loss of an old one: that of marking causativity, and the use of the form as a (mainly) discourse-perfective marker may only serve to illustrate what happens to old causative verbs. The biclausal causative, on the other hand, which is hypothesised to have originated with a Location complement later extending to a directional complement, as shown in 3.4.2, eventually disappeared, the infinitive probably supplanted by other causatives. The pattern is therefore one of attrition and loss of a function, through the process of hyperanalysis, not a burgeoning grammaticalisation process, though there is likely to have been a brief stage of grammaticalisation in the later progress of the form to marking discourse functions.

The marking of perfective aspect is seen in the data, not so much in the selection of lexical aspect with which the auxiliary *do* is associated, but in the perfective functions in discourse: to mark sequencing of subordinate clauses, the reportive present (Dahl's 1985 term) and the performative. It is also seen in Chapter 3 that there are some uses for the auxiliary *do* in marking habituals in the history of English; such uses may still be found today in certain archaic English dialects and in Slavic languages (see, e.g. Dahl 1995). These uses may appear a little anomalous, since in many accounts (Comrie (1976) included), the category of habitual aspect is classified as an imperfective. Carlson (1995: 232) classes it as a state. However, others, such as Lenci and Bertinetto (2000: 251) refer to the difficulty of categorising habituals under imperfective or perfective, as shown in Italian, and suggest that it may be expressed either with perfective or imperfective aspect. Such historical functions of *do* clearly resemble those typical of the perfective aspect in other languages, and therefore it is suggested that there was a stage of marking perfectivity in the history of English, albeit a brief one, and one not coinciding exactly with the time at which imperfectivity was fully marked. The two aspectual categories of the Progressive and the perfective marked by the auxiliary *do*, then, are considered to be both residual stages of other grammaticalised functions, the Progressive as a residual imperfective, and *do* as an end-stage of a recessive causative construction.

Chapters 4–6 dealt with the location of elements on the aspect-modality interface, determining exactly how modal meanings may arise through the influence of certain aspectual co-occurrences. Although modal meanings are now grammaticalised in the use of certain verb forms in present-day English, their origins were always the result of features of aspectual co-occurrence that yielded particular pragmatic inferences of uncertainty or counterfactuality over time. In the case of the adverb *almost* (and its equivalents in other languages), the aspectual category is one of proximity to a perceived future event; the non-actualisation of the future event, implied in the meaning of the proximative, is what creates modal inferences out of an aspectual situation. The modal inferences of non-actualisation are more intensified in the presence of bounded, or perfective predicates, indicating a link between perfectivity and counterfactuality, imperfectivity and non-factuality. Empirical studies undertaken on (Australian) native speakers of English, and mainland Chinese native speakers of Mandarin Chinese, demonstrate the variability with which the inferences may be realised across different aspectual environments. In the case of the Chinese data, another claim made in earlier literature that the modal inferences were, in fact, entailments of negation and not conversational implicatures varying in strength according to context, was tested using examples of expletive negation, held by Horn (2002) and Pons Bordería and Schwenter (2005) to be evidence of an entailment analysis (e.g. *X almost didn't V = X almost V-ed*). It was found that, even amongst speakers of a language in which expletive negation was used, there was still a large amount of variation in the interpretation of modal inferences, indicating that an entailment analysis may not explain the presence of expletive negation so readily. The main problem with some of the earlier studies on this debate was also the failure to recognise an adversative conjunct, frequently co-occurring with the proximative predicate, as an instance of cancellation of the pragmatic implicature. The adversative conjunct (e.g. in *X almost V-ed, but Y happened*) was tested with examples of expletive negation, and the interpretation most frequently attributed to the sentences was a non-expletive one, suggesting that it is seldom found in redundant contexts where implied negation is supplied in the adversative clause. The type of pragmatic inferences by which the modal meanings are derived will be discussed below.

In Chapter 5, the theme of modality projecting from aspect was continued in an investigation of the uses of a semi-modal, *be supposed to*, in its historical development from Middle English. In earlier stages the form was used to express generic situations of belief-states. Since the development of obligation meanings arose only in non-stative verbs, only non-stative verbs were investigated, and it was found that the earlier stages of expressing generally-known beliefs were most often associated with non-human subjects and those of a generic nature. The gradual progression to deontic meanings of obligation would require a reference

to future time in order to be understood as such (see, e.g., Abraham (1998) for discussion on these co-occurrence relations in both English and German); however the changes are predicted to have taken place, not solely because the environment was a non-stative verb, since non-stative verbs can co-occur with generic subjects to continue to express belief meanings in today's English, e.g. sentences such as *Marsupials are supposed to lay eggs* cannot ascribe a deontic obligation to marsupials. The environment in which the shift would have taken place was most likely that of a generic, human subject, and would have described a situation which could be ambiguous between a belief and an obligation, e.g. *Catholics are supposed to go to church on Sundays* (Westney's (1995) example); there were several such examples in the data. Even without the genericity of the subject, though, the use is not immune to ambiguity, as in *Mrs. Brown is supposed to go to church on Sundays*, which could express either belief or obligation. This is because the lexical aspect of the main verb is also unbounded, and there is a frequency adverbial. The presence of quantified or bounded nominal arguments in the context would therefore rule out any possible ambiguities, as seen in Chapter 5, example (24). However, environments of ambiguity such as Westney suggests would have provided the ideal context in which a shift to deontic meanings could take place, as they allow for the maintenance of semantic continuity. It is noted also that meanings of expectation, when distributed over a sufficiently generalised spread of hearsay sources, carry the invited inferences of weak deontic meaning associated with later stages of development, since if enough people believe or expect that a subject will perform an action, it becomes a quasi-obligation on the subject (otherwise the expectations would be betrayed). Thus, a predictive statement such as *The University is expected to pay up* is stronger than a neutral prediction, as it contains inferences of duty or obligation which can be transferred to the passive subject.

The categories of non-epistemic modality have all been lumped together in the studies presented here under the general label of future-projecting modality, since the feature of projecting the modal senses into the future is perhaps the only reliable feature they have in common. The coalition of stative, or imperfect aspect with modal meanings generally produces an epistemic reading, and an epistemic context expresses deductive inferences which must have present time reference, or be relevant to the present and the moment of speaking. In the creation of deontic meanings out of *be supposed to*, observed in Chapter 5, it was demonstrated that a generic source, originally expressing evidential meanings, could serve to generate meanings about the future in certain ambiguous contexts (it should be borne in mind that the deontic obligation is not necessarily imposed by the speaker in such instances, but is more likely to express the general expectations of the speaker). The same observations are continued in a study of the development of the modal *will* in English, which in most recent grammaticalisation accounts (e.g. Bybee et al

1994; Hopper and Traugott 2003) has been held to have emerged out of environments in which the intentions of the subject are reinterpreted as predictions of the future. As noted in Chapter 6, examples of generic uses of the modal in Old English do not accommodate readily such a path of development, and the data from investigation of a number of Old English texts in the Helsinki Corpus revealed that the earliest uses of the modal were more frequently found with generic subjects than the specific subjects which would be necessary for a pathway of development from intention to prediction to have taken place. (Although some uses of *will* with specific subjects, expressing intention, were found, they were not in the same number as the generic uses.) The hypothesised path of development, therefore, is from volitional proclivity to probability, and the probability related to generic uses in the present will always yield the same probability in the future; hence predictive senses are seen as *already present* in the earlier stage, and do not need to be invoked, as they would if intention were an earlier stage. The restrictions of semantic continuity again suggest this pathway as a preferred option.

The hypothesised pathway for the grammaticalisation of *will*, then, relies on the claims outlined in Chapter 1, made by Carlson (1995), Langacker (1997), and Lenci and Bertinetto (2000) on the use of inductive inferencing in generics: a habitual aspectual account of the origins of the modal will allow for such claims by virtue of the fact that the evidential basis of frequently-occurring, or frequently-repeated instances of an action or event, i.e. the episodic basis, enables and strengthens the predictions that it will take place at a later time in the future. It is possible, in other ways, to suggest that knowledge of the subject's intentions to do something is also evidence of the fact that it will be done in the future. However, there is one hurdle to overcome, and that is (as noted in Chapter 1) that the intentions of the subject need to be communicated to the speaker; i.e. there is a shift of speech act from a reporting, declarative statement (one that is objective) to one of (subjective) prediction with a necessary presupposition that the reporting statement was made on the understanding of evidence communicated to the speaker by the subject. In the case of the generic origins, semantic continuity is best preserved by the fact that a habitual or generic aspectual context also contains an in-built inference of prediction without the need to shift the subjectivity of the utterance. It is believed therefore, that specific subjects were more frequent in the later stages of the use of the modal.

It may be questioned at this stage how these two avenues of the development of modality, as shown the development of counterfactuality in Chapter 4 and the rise of non-factual senses in Chapters 5–6, can best be combined into one theoretical argument. Verstraete (2005b) refers to two distinct domains of (non-factive) modality: that of the potential actualisation of an event and that of its non-actualisation, which shall be rendered in the present account as *potential* non-actu-

alisation, since non-actualisation may be confused with expressions of asserted negation. Verstraete also shows that the category of non-actualised modality, or counterfactuality, is interpreted in the data he presents of Australian languages as being created by the combination of past time reference with potentiality. A similar approach has been referred to by Dahl (1997), and the same 'attraction of opposites' is visible in the operation of the Counterfactual Implicature Principle (see Chapter 4.5) in which the implicatures of counterfactuality increase with the conceptual specificity of the context in which they are embedded; hence, past tense or perfective environments will lend themselves most readily to an inference of the potential non-actuality of an event.

The findings from Chapters 4, 5, and 6 may then be viewed in comparison and contrast, and the following conclusions may be established: (i) that potentially actualised modality meanings and potentially non-actualised modal meanings both arise out of particular aspectual combinations; (ii) that potentially-actualised modality may arise out of the aspectual environment of genericity or omnitemporality, and (iii) that potentially non-actualised modality arises out of the environment of proximity (to fact), which is, in effect, potentially actualised, but in past temporal contexts. As Verstraate also summarises, one modality type emerges out of the other; it may be questioned how such an interrelation can occur. In Traugott (1989) was first proposed the hypothesis of the grammaticalisation of epistemic modality from deontic, or non-epistemic sources, via the conventionalisation of conversational implicatures, but, in particular, conversational implicatures of Grice's (1975) Maxim of Quantity. In the case she presented, the particular submaxim in operation was the maxim of Quantity 2: 'Do not make your contribution more informative than required'. In the example of the development of predictive modal inferences from generic sources, in both Chapter 5 as well as Chapter 6, this is the maxim influencing the conventionalisation of the meanings. The inferences from generic sources to future prediction are inductive, since the existence of a situation known in the present but not actually coinciding with the present enables a prediction of its continuity in the future, and the inference is from minimal evidence to maximal projection. In the case of the counterfactual senses arising from the use of proximatives in the past, the particular Gricean maxim exploited was the Quantity 1 maxim, which stated that it was unco-operative not to supply as much information as was necessary for the purposes of the exchange. Thus the interpretation of an expression of proximity to a past event would create the inference that that was all the information available, and that the event, in spite of the referred proximity to it, did not take place (this interpretation is based on the premise that we expect past facts to be entirely known, not just partially known). The present studies allow for the possibility that the Quantity 1 inferences, in such cases, are derived artificially from a cancellation of the Quantity 2 inferences of

potentiality, via the adversative conjuncts illustrated in Chapter 4.[3] The interrelationship, therefore, shown is one of complementary inferences of Quantity, both interacting with one another in the creation of modal meanings (similar evidence is given in Ziegeler (2001)). The case studies illustrated in the present volume thus reveal that the determination of the modal inferences is a sum of whatever Quantity sub-maxim takes precedence in the environment, and the determination of precedence is a sum of the aspectual conditions available at the time. In effect, particular aspectual conditions give rise to modal meanings of various types, depending on the precedence of the Quantity implicature operating at the time.[4]

The compiled studies, however, still leave a number of stones unturned. The scope of the present study has not permitted an investigation into aspectual conditions in other dialects, such as those in contact with other languages, as in South Asian and Southeast Asian varieties of English, in which the aspectual underlay in contact and substratum features results in markedly different results, particularly with regard to the development of modality and modal meanings (see Ziegeler 2000a for a preliminary glance). The aspectual situation presented in the history of English as revealing non-overlapping cases of the grammaticalisation of grammatical aspectual catgeories of perfective and imperfective may not necessarily be matched in the development of other dialects. Furthermore, the scope of the present study did not allow for an investigation into the domain of nominal aspect, a phenomenon which is barely accounted for in most recent, intensive studies on aspect in English or other languages, but which requires carefully-planned and comprehensive exploration, especially within fields of cognitive linguistics, in order to produce promising results. The comparative overview of the present volume has also been restricted, and a future study would aim to place more emphasis on accommodating crosslinguistic evidence to support some of the claims made. There is adequate scope, therefore, for much further work and many exciting, future studies in similar areas of interest, and it is hoped that the research presented in this book may provide the catalyst to inspire others with similar curiosities to continue to work in the same field.

3. This hypothesis may apply to the modal contexts thus illustrated; however, it remains for further investigation to provide comprehensive evidence of the same cancellation of Quantity 2 implicatures by adversative clauses in non-modal contexts.

4. Panther and Thornburg (1999: 352) have also discussed the importance of implicature precedence in a number of examples.

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